UPDATE!

$ 4.95 OCTOBER 1990

Computer Systems

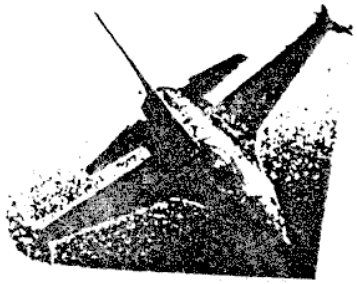
Take it to the Limit

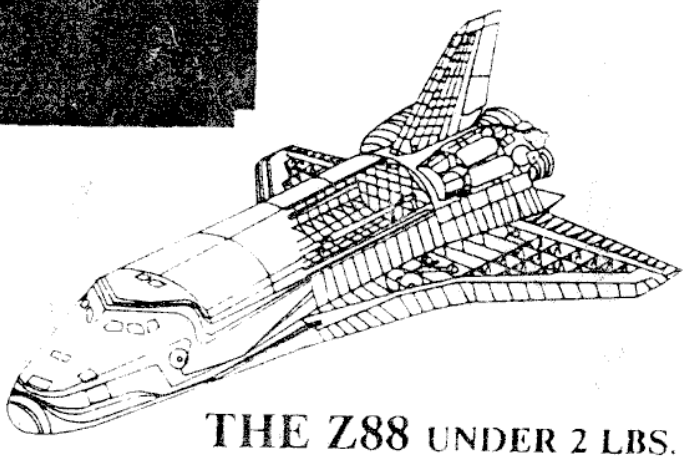
A Quarterly Magazine for the users

OF

SINCLAIR COMPUTERS

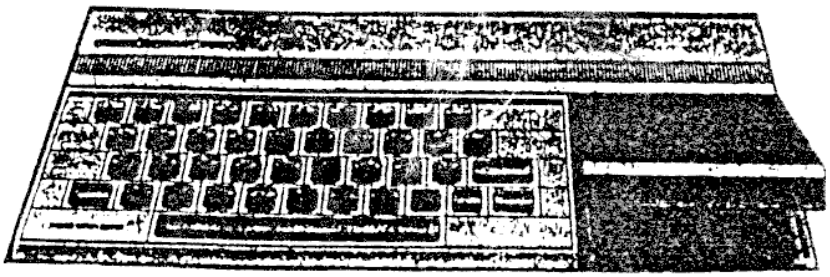
The Sinclair QL
-a 32 bit CPU Powerhouse!



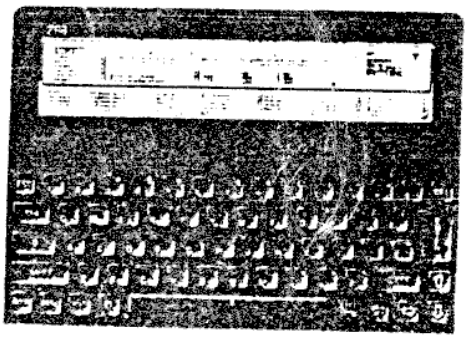


THE Z88 UNDER 2 LBS.

A Computer Without Compromise



The TS-2068 Workhorse



UPDATE COMPUTER SYSTEMS

P. O. Box 1095

Peru, Indiana 46970

NEWS AND NEW PRODUCTS

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SERIAL PRINTER, PERFECT FOR USE WITH QL AND Z88. COMPATIBLE WITH BOTH EPSON AND IBM CODES. 100/24 CPS (DRAFT/NLQ).

EMEX 2400EC Modems w/MNP4 ..... $105.00

300/1200/2400 BAUD, 100% HAYES COMPATIBLE, INCLUDES MNP 4 ERROR CORRECTION FOR ERROR FREE FILE TRANSFERS.

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DISK INTERFACE FOR T/S2068. SUPPORTS UP TO FOUR 5.25" AND/OR 3.5" DISK DRIVES. ASK ABOUT DRIVES, CASES, AND CABLES.

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TERMINAL SOFTWARE FOR THE T/S2068. INCLUDES 64 COL. DISPLAY, XMODEM, AND FULL SIZE PRINTER DRIVER. COMPATIBLE WITH 2050 AND 1200 BAUD MODEMS. AVAILABLE ON TAPE OR POPULAR DISK.

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THIS T/S2068 GRAPHIC UTILITY TAKES A COLOR IMAGE AND CONVERTS IT TO B & W WITH GREYSCALE. YOU CAN CHOOSE/MODIFY GREYSCALE FOR BEST EFFECT. IMPROVES IMAGES FOR DOT MATRIX PRINTERS.

Catalogs, Information, and Other Things ..

U.S. S&H CHARGES: SOFTWARE $3.50, MODEMS AND DISK I/F $5.00, PRINTER $10.00. CA MUST ADD SALES TAX. SEND $1.00 AND SASE (WITH 45 CENTS POSTAGE) FOR A COMPLETE CATALOG OF T/S PRODUCTS. CALL FOR ADDITIONAL INFORMATION ABOUT THESE OR ANY OTHER TIMEX PRODUCTS. ***Support the businesses that support you!***

SEASON'S GREETINGS 1990

THE GREY FAMILY (ED, HEDDY, AYANNA, AND DAMANI) WANTS TO WISH, ALL OF YOU IN THE TIMEX/SINCLAIR COMMUNITY, THE VERY BEST OF HOLIDAY SEASONS. DON'T FORGET OUR SERVICE PERSONNEL IN THE MIDDLE EAST. LET'S ALL HOPE FOR PEACE IN 1991.

Call The Grey Matter BBS & RCP/M 213-971-6260 (CALAN)

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Page No. 50--- Issue Disks for the TS2068

UPDATE COMPUTER SYSTEMS is Edited and Published by Carol and Frank Davis of P.O. Box 1095, Peru, Indiana 46970. Phone Number is 317-473-8031. It is published and mailed out on a quarterly basis in October, January, April and July. All subscriptions begin and end at the same date. The cost is $18.00 U.S. for a one year subscription. Make all checks or money orders out to UPDATE COMPUTER SYSTEMS. To obtain back issues at this time, please contact Bill Jones at 1317 Stratford Ave., Panama City, Florida 32404. Assistance to Update is provided by Eliad P. Wannum, poet, computer user and all round good guy.

YOU COULD CALL THIS AN EDITORIAL by Frank W. Davis

Welcome to the October issue of Update Computer Systems and the first issue that has been edited and published by my wife, Carol, and I. It is my hope that there will be many more issues of this magazine to pass into your hands. Most of you who are reading this will be either people new to the magazine or people who have re-newed their subscription to Updates. The rest of you have not subscribed before and have received this copy mysteriously in your mailbox as an inducement to get you to subscribe...or have not re-newed and I am sending you this in the hopes of jarring your memory to send in your check or money order. We are not a gigantic magazine and are supported by your subscriptions alone. The ads you see in the magazine are there on an exchange basis. We promote the company making the ad and expect to be promoted to their customers. A fair and even exchange. When we do a review on a Sinclair program or hardware item we will be bound to tell you only the truth. We will not worry about losing an ad account.

We are running about two weeks behind where I had expected to be for a mailout date on this issue. I blame most of it on defective hardware that has been returned for repair, and have since purchased some backup hardware to fill in (and so I will not be slowed down by a second such occurrence in the future).

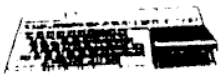
Tim Stoddard did not get his Trump Card article to us in time for this issue, but it should be back with us in the January issue. This series puts to shame the manual that came with the purchase of the Trump Card, and I look forward to seeing the rest of the series.

In this issue we are doing some reruns on the area of Sinclair desktop publishing, by Mike Felerski, in order to catch up those of you who were not familiar with this series from the Indiana Sinclair Timex Users Group Newsletter. All new material is planned for the January issue, along with coverage of the QL desktop publishing programs. I also encourage the submission of material in this (and all) areas from any of you. UPDATE ENCOURAGES writers to submit articles, utilities and programs for publication. The FORMAT is very relaxed. Just pay attention to the width of the pages and allow 3/4 inch top and bottom and make the left and right margins wide enough to accommodate a 3 hole punch that does not cut out some of the text. We have enlarge and reduction capability to adjust print to fit a page. Most important is legibility. Draft quality dot matrix does not reproduce well. Print size preference is ELITE 12 characters per inch. PICA 10 characters per inch is OK also, but please no condensed print. If the article has illustrations, schematics, pictures, figures, then let us know how to organize them.

Programs for the TS2068 to publish may be LLISTED in 32 chr lines, but that is not solely necessary. Our preference is for programs designed to operate on DISK DRIVES. We would even on occasion entertain a program for the TS1000, if it is either disk drive specific, or concerns its use in conjunction with the TS2068, Spectrum, QL or the Z88. Please do not make submissions on cassette tape under any conditions, use disk (3 1/2, 5 1/4, ssdd, dsdd, dsqd, 40, 80 track, etc. are all okay) or hard copy (if hardcopy only then enclose two copies).

Sinclair QL programs and utilities should be supplied on either disk or microdrive cartridge. All programs must be usable on an UNEXPANDED QL. If programs are supplied on disk, then please include a version that will run on microdrive.

Z88 programs should either be hardcopy or on disk in QL or IBM format. To all of the rules given above there are exceptions. These are just things that make editing easier.



LKDOS SOFT-WARE

MAXCOM 300/1200 baud Terminal/BBS

This full feature modem software lets you effectivly link the modem to the disk, so you can upload or download files larger than 100K.This lets you send NMI saves and large text files as well as Basic or Code files, which other modem programs couldn't send because of memory limitations. Also files can be sent with or without a information header (Spec-term compatible)

It also has a 64 column display and is the only 2068 modem program that will run at full 1200 baud without missing characters. Other features of the terminal mode are IBM graphic characters, auto-dialer, macro keys, 110K disk buffer for captured text, auto repeat keys.

The BBS is the most elaborate available for the 2068 and allows the remote user full access to the disk drives similar to a CPM BBS. Features of the BBS are - 300/1200 baud, operation with fast reponce even at 1200 baud, Passwords, priority levels, Use time limits, Multiple Message Bases, Uploads and Downloads are not limited by Memory, Dual Window Monitor screen, Interupt driven time out and Hangup protection, Also Keeps a User log of callers Names and Activity on disk so a printer isnt needed and its easily customised and expanded

MAXCOM can be used with the 2050 modem or with the Z-SIO RS232 interface and a 300/1200 baud modem. (a version for the Aerco RS232 is in the works)

PRICE: $24.95

LARKEN DISK EDITOR

This program lets you examine or change any byte on a LKdos disk. It is useful in repairing damaged or glitched disks, changing the disk Name or head speed etc. You can also examine the track map and disk info headers.

The documentation for the disk editor also includes information on how to access LKdos from Machine Code and information on the structure of the disk catalog and data blocks.

PRICE: $15.00

SEQUENTIAL/RANDOM Access FILES

This utility is a ram resident extension to the LKdos operating system and lets you create, read from, or write to very large data files kept on disk. It uses the commands OPEN#, CLOSE#, PRINT#, INPUT#, and INKEY$# to access the files from BASIC. There is also a high speed search command for finding a text string within the data file. Using the TAB command, you can randomly access directly any record in a file.

The utility is easily used within your basic programs and has a lot of uses, from storing large data files, creating large spell checker dictionarys or even converting you basic programs to an ascii text file .

This utility lets you take the limits off of the data capacity of the 2068 .Files on disk can be huge !

A simple data base program is included on the disk to demonstrate the utility.

PRICE: $ 15.00

Coming Soon from Larken Electronics

** The Larken Desk Top Publisher ** Produce high quality printing (like this page) with an epson compatible printer and LKdos. The entire Hi-res graphic page is kept on the disk and scrolling though the page is as easy as clicking the joystick or mouse on the icon type menu. Text and Graphic editing with multiple sized fonts will also be featured.

** Spell Checker for Tasword and M-Script ** This utility program will let you have your wordprocessor text files be checked by a 350K dictionary.

All Prices $US - Specify type of drive when ordering.

LARKEN ELECTRONICS RR#2 NAVAN, ONTARIO CANADA, K4B-1H9

(613)-835-2680

BYTE POWER CATALOG

ITEM	DESCRIPTION	PRICE
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AUGUST 1986	GRAND PRIX, HANG MAN, ETC,	5.99
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FALL 1987	QUIZOMANIA, INTEREST CALCULATOR, ETC,	5.99
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6 ISSUE SUBSCRIPTION	(OR ANY 6 BACK ISSUES)	32.00
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FONTS II	28 FONTS, 64 COLUMN PRINT, DOUBLE, ETC,	22.95
2+FAST	SAVE & LOAD AT HIGH SPEED (3300 BPS)	22.95
PRINT FACTORY	PRINT ANY TYPE OF DOCUMENTS (POSTER etc)	27.95
THE COMPANION	LOTS OF IMAGES, FONTS, etc, FOR FACTORY	27.95

THE PRINT FACTORY COMES ON 3 TAPES AND THE COMPANION ON 4 TAPES.

****

NOTE: Anyone with remaining issues can, on request, exchange the remaining issues credit (in part or in full) with any of the above software (not exceeding credit value).

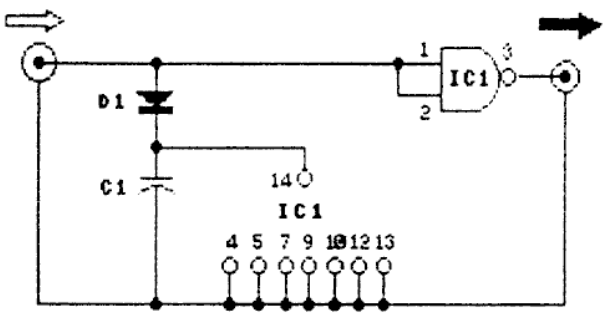
All prices include shipping & handling charges

Send all checks & money orders (U.S. funds only) to:

BYTE POWER
1748 Meadowview Avenue,
Pickering, Ontario, Canada L1V 3G8

CIRCUIT CIRCUS

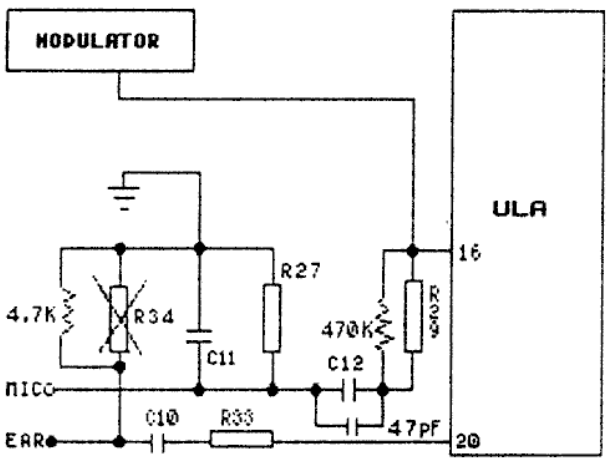
QL SYNC INVERTER



C1 = 10UF, 16V IC1 = 74HC00 or MEF40116
D1 = 1N4148

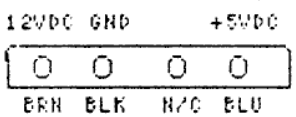
Use between composite monitor and QL to provide proper sync. Signal powers circuit!

MODULATOR

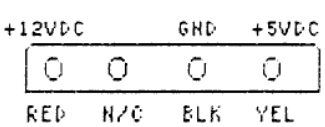


Modify your TS1000 or ZX81 with this circuit and say good-bye to all those tape loading problems! Add only those components whose values are listed.

TOS (SILVER AVENGER) SUPPLY



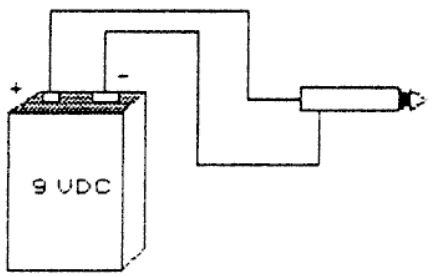
FRONT VIEW



AMDEK DRIVE SUPPLY

Here's how to overcome the overheating problem in "Silver Avenger" 3-in disk drive power supplies: Use Amdek drive power!

Modem Power



Here's a quick and dirty 9-volt power supply for that 2050 modem or anything else that needs it. Battery should be alkaline and the plug is a 'mini.'

Excerpted from SWAM newsletter Seattle Sinclair Users Group

2068 CADZ V 2.2

DESIGN PRINTED
CIRCUIT BOARDS

SCHEMATICS : DRAFTING

ADVERTISEMENTS

SUPPORTS

AERCO OR LARKEN DISK OR TAPE
OLIVETTI INKJET AND MOST DOT
MATRIX PRINTERS, ANY INTERFACE
LARKEN RAMDISK, AERCO DOCK RAM
OR ANY DOCK RAM EXPANSION

REQUIRES

32K TO 256K OF DOCK RAM AND
ARTWORKS V1.1 BY NOVELSOFT

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CADZ $20.00 (SEND SYSTEM SPECS)
OR
$1 FOR CATALOG PACK & INFO

ZUNK CUSTOM ELECTRONICS
1419 FERRIS
WAXAHACHIE, TEXAS 75165

PLATYPUS
Software QL to PC file transfers

SPREADSHEET [text & valid formulas / some functions do not transfer to LOTUS (e.g., askt & askn)]:

QL-ABACUS to:	PC-ABACUS	base + 1.60 / screen
	LOTUS 1-2-3	base + 4.80 / screen
QL-QUILL to:	PC-ASCII.TXT	base + 2.50 / 25 lines
	PC-QUILL	base + 3.00 / page
	WordPerfect	base + 5.00 / page

The "base" fee is: $5.00 for the 1st file,
$4.00 for the 2nd file,
$3.00 for the 3rd file,
$2.00 for the 4th file,
$1.00 for each subsequent file.

A "screen" is defined as: 20 rows x 8 cols.
A half-screen is: 10 rows x 8 cols.
A quarter-screen is: 5 rows x 8 cols.

** A "page" is defined as: 30 lines maximum x 80 columns (or, about 300 words).
** Partial pages will be rated at $0.10 per line in QUILL and $0.15 in WordPerfect.
** A quarter-screen minimum increment for spreadsheets.

PLEASE NOTE: The new file(s) will be supplied on a 3.5" 720K disk.

If you need a 5.25" 360K disk, then please supply a labelled, pre-formatted 360K disk along with any original media. If you send microcartridges, please ensure that they are of high quality AND that you retain backup copies during the interim.

Of course, any original media (disks/microcarts) will be returned.

If you have other needs, please enquire: AL FENO
15 Wake Robin Court
Woodridge, IL 60517
(708) 971-0495

EARL V DUNNINGTON, JR
12198 FOREST GREENS DRIVE
BOYNTON BEACH, FL 33437

Dear Bill,

I read your article TS 2068 PROGRAMMING IN THE ABSTRACT with great interest as we had previously discussed this problem. To me you have two problems:
1. Use of the BREAK key during asubroutine.
2. Switching the destination line number for the return from a subroutine.

Regarding problem 1:

The use of the BREAK key during a subroutine is really not a problem as you would have to break into subroutines 78 times before you would get an OUT OF MEMORY remark. To prove this type into your computer the followingprogram:

```
  10 ON ERR GO TO 40: FOR N=1 TO 100
  20 GO SUB 30
  30 NEXT N
  40 PRINT N
```

RUN the program and you will see that 78 GO SUBs without any RETURNs have been entered on the STACK before you get an error. The chances of using BREAK during subroutines while the program is running, this number of times is infinitesimal.

If however you wish the program to RETURN to a different Line if the BREAK is used during a subroutine, without leaving the return address on the stack, then this is a type 2 problem.

The following sample program may be the answer you want:

```
  10 GO SUB 9900
  20 ON ERR RESET : CLS : PRINT "program would continue": STOP
2000 ON ERR RESET : CLS : PRINT "menu at Line 2000 would appear"
: STOP
9900 ON ERR GO TO 9950: PRINT "Press CAPS SHIFT and BREAK or ENT
ER": PAUSE 0: RETURN : REM PAUSE used to give time to press brea
k or enter
9950 PAUSE 30: POKE 25083,208: POKE 25084,7: POKE 25085,0: RETUR
N : REM PAUSE used so break key does not continue to operate
```

Dear Bill

Your sample routine in the right column of page 40 of the April 90 issue, does not work as listed. This one does.

```
 490 INPUT "INPUT A$ or press ENTER";a$
 500 LET z=4: REM item 4 selected from menu
 510 IF z=4 THEN GO SUB 900
 520 PRINT "program would continue": STOP
 900 IF LEN a$<1 THEN POKE 25083,208: POKE 25084,7: POKE 25085,0: RETURN
 910 PRINT a$;: RETURN
2000 PRINT "routine to use if A$ has no data"
```

You must POKE 25085 with the statement number in the Line to which you want to return. In this case a zero.

Best regards,

THANKS Earl. We've now out-smarted the STACK, which Timex never intended us to do. _BJ-

OLIGER DISK DRIVE I/F HELP FILE
(SAFE Version 2.52)

CAT or CAT /	lists all files of enabled drive
COPY /	copies display file via printer port
ERASE /"name"	erases the file in the current drive
FOR /n TO m or FOR /m	fast integer only FOR-NEXT loop
FORMAT /"name"	formats diskette
LET /d=n	enables drive n (0-1-2-3)
LET /h=n	sets the drive head step rate (6)
LET /p=t or o	sets printer for Timex or Oliger (Cent)
LET /s=n	sets number of sides to 1 or 2 (2)
LET /t=n	sets number of tracks from 10-250 (40)
LOAD or LOAD /0	loads a short (1.5K) BASIC program (File 0)
LOAD /n	allows use of SAFE V. 1.0 with V. 2.0
LOAD /"name"	loads BASIC program
LOAD /"name" ABS	loads all 48K of homebank RAM (State)
LOAD /"name" CODE a	loads CODE at address a
LOAD /"name" CODE a,b	loads CODE at address a (b=number of bytes)
LOAD /"name" DATA x()	loads numerical data
LOAD /"name" DATA x$()	loads string data
LOAD /"name" LINE n	loads BASIC program with autostart at line n
LOAD /"name" SCREEN$	loads a SCREEN$
LOAD /"name" VAL	loads all BASIC variables only
MERGE /"name"	merges a program above current program lines
MOVE /	disk copy command to next drive
MOVE /"name"type	copies program to next logical drive
MOVE /"name" type TO n	copies program from current drive to drive n
NEXT	command for use with FOR /n TO m loop
RESTORE /"newdiskname"	renames disk in current drive (16 characters)
RESTORE /s	reinitializes SAFE to default settings
RESTORE /"name" TO "y"	renames program "name" to "y"
SAVE /0	saves a short (1.5K) BASIC program (File 0)
SAVE /"name"	saves BASIC program
SAVE /"name" ABS	saves all 48K of homebank RAM (STATE)
SAVE /"name" CODE a,b	saves CODE at address a (b=number of bytes)
SAVE /"name" DATA x()	saves numerical data
SAVE /"name" DATA x$()	saves string data
SAVE /"name" LINE n	saves BASIC program with autostart at line n
SAVE /"name" SCREEN$	saves a SCREEN$
SAVE /"name" VAL	saves all BASIC variables only
SAVE //"name"type	saves without overwrite warning message
VERIFY /"name"	checks to see if data is stored correctly

NMI (PUSHBUTTON) FUNCTIONS

ABS STATE SAVE	NMI then key 1-2-3-4-5-6-7-8-9 or 0
BREAK to BASIC	NMI then key c
CONTINUE after PAUSE	<ENTER>
COPY SCREEN	NMI then key z (COPY)
PAUSE	NMI
RESET	key n and NMI button
SCREEN$ SAVE	NMI then key q-w-e-r or t

SOURCES - JOHN OLIGER COMPANY DISK DRIVE INTERFACE USER MANUAL and ADDENDA
- NORTH EAST FLORIDA T/S USERS GROUP NEWSLETTER

Jack Dohany
435 Woodward Way
Athens, GA 30606

404-543-5309

January 1990

*** WORD-MASTER IS READY! ***

I'm happy to announce that the USA version of WORD-MASTER is now ready. I believe that this is the finest software ever written for the Spectrum... and I didn't write it, so I'm not tootin' my own horn. The software was written by the British firm PCG (Parkinson Computer Graphics), from whom I have authorization to produce and distribute the USA version.

The USA version is meant for use on a T/S 2068 computer with any form of Spectrum emulator, any common printer interface, and any common disk system, or cassette. Actually there's a separate variety for each disk system: none, Aerco, Larken, Oliger and Zebra.

WHAT IT IS

Word-Master is a word processor with graphics capabilities, and with optional graphic designer, LQ fonts and desktop publisher. While Word-master itself can be used with any big printer, the options require an Epson-type dot matrix printer.

REVIEW COPIES

There's too little room in this hand-out for a full description of Word-Master. The best way for you to really understand what this program does is to try it on your own computer. I'll be happy to send you a review copy of Word-Master upon request, with this condition: that you pay for it if you like it, and return it if you don't. Please be sure to describe your system fully, since your review copy will be customized for your equipment. Please include $3 for shipping. Your review copy will include all options and documentation.

THE PRICE

The price of the Word-Master package ranges from $18 to $67, depending on which options you find useful. If your funds are limited, you can pay for the desired options over a period of time. Details on payment are provided with your review copy.

SPECTRUM EMULATION

If you have AERCO disk, no spectrum emulator is needed, since the AERCO variety of Word-Master comes with a software-based Spectrum emulator, which is shareware by Keith Watson.

If you do not have AERCO DISK, then you need a hardware Spectrum emulator. If you don't already have one, see page 2.

CONCLUSION

I hope you'll order your review copy of Word-Master soon. I'm sure that you'll be as enthusiastic about this software as I am. It brings new life to our beloved old computer.

*** SPECTRUM EMULATOR ***

I now have a Spectrum emulator available for the T/S 2068, at low cost. This emulator consists of a 32K eprom, which replaces the 16K rom. The 32K eprom contains the 2068 operating system in the lower half, and the Spectrum operating system in the upper half. Certain errors in both operating systems are corrected. Error correction is detailed in documentation.

The lower or upper half of the 32K eprom is selected by means of a small switch on the back of the 2068. Thus there is no cartridge to insert or remove, and no bulky magnetic switch on the top of the computer, as with the ROMSWITCH emulator. If you have LARKEN disk, you don't need to modify the LARKEN cartridge.

COMPATIBILITY

This emulator is compatible with all disk systems except AERCO, which requires software emulation instead. The ZEBRA disk system requires that an additional dual eprom be installed in the ZEBRA disk interface. No changes are needed to the controller.

INSTALLATION

The 2068 Spectrum emulator can be easily installed by anyone with soldering experience. Full instructions are included. If you're doubtful of your capabilities, it may be best to let me do the installation.

Installation of the ZEBRA I/F dual eprom is much more difficult, and is suggested for experienced technicians only.
The 24-pin eprom socket must be desoldered and replaced with a 28-pin socket, after drilling 4 precise pin-holes.

LOANERS

If you want me to do an installation for you, you can first order a LOANER 2068 and/or LOANER ZEBRA I/F. When you get the loaner(s), then send your equipment. When you get your equipment back, return the loaner(s). All work is guaranteed.

PRICES including shipping:

	KIT	INSTALLATION	LOANER
SPECTRUM EMULATOR	$15	$10	$5
(Includes 32K eprom, 2 diodes, switch, wires and instructions.)			
ZEBRA I/F DUAL EPROM	$10	$10	$5
(8K eprom, 28-pin socket, switch, wires and instructions.)			

OTHER POSSIBILITIES
It is also possible to install a special AERCO-compatible printer interface inside the 2068, and install a special dual eprom with built-in "native" print driver software.
This costs $40.

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34.	Z88 MAGIC OR USING Z88(BOOK)	$ 25

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PROGRAM.. PATCH.BAS LOAD FROM BASIC
THIS DOCUMENTATION..... PRINTED FROM PATCH.PD

The version of BBC BASIC resident in the cambridge computer z-88 is deficient in a few respects, especially in the lack of any editing facilities or support for graphics operations. The purpose of the BASIC Patch program is to provide some of these capabilities.

The PATCH program is installed with a simple CHAIN command, and thereafter remains resident until the machine is reset or BASIC is KILLed. It occupies 2 kb of memory, and results in the value of PAGE being raised to &2B00; when the graphics operations are used a further 2k is used for the display buffer.

The PATCH will work only on an expanded machine, (at least 128kbytes of RAM installed in slot 1). If this is not the case, or if the available memory has been deliberately reduced by changing HIMEM, the message "NO RAM" will be displayed when the program is CHAINed.

The new features provided by the PATCH.BAS program are as follows:

***EDIT line number**

This command allows you to edit a specified program line. It results in the line being displayed, (after a short delay), with the cursor positioned at the end of the line, and you can edit the line using any of the usual line-editing features, as follows:

left	Move cursor left one character
right	Move cursor right one character
SHIFT left	Move cursor left one word
SHIFT right	Move cursor right one word
<> left	Move cursor to start of line
<> right	Move cursor to end of line
DEL	Backspace and delete
SHIFT DEL	Delete character under cursor
<> DEL	Delete entire line
<> D	Delete from cursor to end of line
<> G	Delete character under cursor
<> S	Swap case
<> T	Delete up to next space
<> U	Iinsert space at cursor position
<> V	Toggle between insert and overtype

To enter the edited line into the program press ENTER; to abandon the edit and leave the line unchanged, press ESC

You can also use *EDIT to concatenate, two or more sequential program lines, by specifying the first line separated by commas, (eg.*EDIT 10,30) In this case, you will have to edit out the line nos. of the second and subsequent lines; then delete the old line nos.

*EDIT may be abbreviated as *E. (the dot is required)

MODE n

The MODE statement allows selection of the normal text-only mode (MODE Ø), or a text-and-graphics mode (MODE 1). In MODE 1, the display is split into two parts: a text-window on the left and a graphics-window on the right. The text window consists of 8 rows of 5Ø characters, and the graphics window is 64 pixels high by 256 pixels wide; you cannot (normally), mix text and graphics in the same window.

Points in the graphics window are addressed as x.y coordinates from Ø,Ø (the bottom-left corner) to 255,63 (the top-right corner). The origin can be moved from Ø,Ø using the PLOT-1 statement (q.v.)

Although MODE 1 sets up the window positions and sizes as described, it is possible to change these using the VDU statement. However, the method of doing this is outside the scope of this document. It is not advisable to cause the text and graphics windows to overlap, although this may occasionally be useful.

MODE clears the display (both text and graphics windows), moves the text cursor to Ø,Ø (the top left of the text window), resets the graphics origin and moves the graphics cursor to Ø,Ø (the bottom left of the graphics window).

In MODE Ø, (the normal 94-column text mode), the other graphics statements have no effect.

CLG

This clears the graphics window only; it does not affect the position of the graphics cursor. Note that **CLS** can be used to clear the text window and leave the graphics window unchanged.

DRAW x,y

Draws a straight line (in black), between the current position of the graphics cursor and the specified coordinates, then moves the graphics cursor to the specified position.

This statement is identical to PLOT 5.

MOVE x,y

Moves the graphics cursor to the specified coordinates, but does not affect what is displayed.

This statement is identical to PLOT 4.

PLOT n,x,y

A multi-purpose plotting statement, whose effect is controlled by the first parameter n :

n	action
-1	Move the graphics origin to x,y
Ø	Move the graphics cursor relative to the last point
1	Draw a line, in "black", relative to the last point
2	Draw a line, in "inverse", relative to the last point
3	Draw a line, in "white", relative to the last point
4	Move the graphics cursor to the absolute position x,y
5	Draw a line, in "black", to the absolute position x,y
6	Draw a line, in "inverse", to the absolute position x,y

PLOT n,x,y continued....

7	Draw a line, in "white", to the absolute position x,y
8-15	As Ø-7, but plot the last point on the line twice (i.e. in the "inverting" modes omit the first point)
16-31	As Ø-15, but draws the line dotted
32-63	As Ø-31, but plot the first point on the line twice (i.e. in the "inverting" modes omit the last point)
64-71	As Ø-7, but plots a single point at x,y
72-79	Draw a horizontal line left and right from the point x,y until the first "lit" pixel is encountered, or the edge of the window. This can be used to fill shapes.
8Ø-87	Plot and fill a triangle defined by the 2 previously visited points and the point x,y.
88-95	Draws a horizontal line to the right of the point x,y until the first "unlit" pixel is encountered, or the edge of the window. This can be used to "undraw".
96-1Ø3	Plot and fill a rectangle whose opposite corners are defined by the last visited point and the point x,y.

POINT (x,y)

This function returns the state of the pixel at the specified location, as Ø (unlit) or 1 (lit). if the specified point is outside the graphics window (taking into account the position of the origin), or if MODE Ø is selected, the value -1 is returned.

The graphics statements COLOUR and GCOL are not implemented.

==========

Installation of the BASIC patch has a number of "side effects" that you should be aware of.....

1. Changing HIMEM will have the effect of disabling the patch. If HIMEM has been changed it must be set back to &CØØØ before re-CHAINing the patch program (or alternatively KILL and re-start BASIC from the INDEX). Changing HIMEM is not recommended in any case, since setting it to an unsuitable value will "crash" the machine (even without the patch).
2. The "Silly", "RENUMBER space" and "LINE space" errors will not appear; instead, the "No room" message will be produced in each case.
3. You are advised to select MODE Ø, before entering PIPEDREAM, since it seems to get confused by the presence of the graphics window.
4. Since Cambridge Computer provided no "legal" method of installing a patch such as this, (indeed, for a long time I thought it would be impossible!!), a rather "dirty" method has had to be adopted. This has some unfortunate, but unavoidable, consequences:

   (A) The RUN and CHAIN commands, may occasionlly fail to work properly (on average less than 1 in 1ØØØ times). If this happens no harm will be done; simply issue the command again.

   (B) If you reply to the INPUT statement with a very long string. (more than 252 characters) the machine will crash, so you must avoid doing that.

5. Using graphics statements in an ON ERROR routine may give anomalous results. example:

```
10 ON ERROR MODE 0 : REPORT : END
20 MODE 1
30 REPEAT
40   DRAW RND(256)-1,RND(64)-1
50 UNTIL FALSE
```

The above program can be exited only by peressing ESCape. The intention is that this will cause the display to clear and the message "Escape" to be displayed. In practice, the message actually displayed will be "Sorry, not implemented" since, although the patch is active, the MODE statement still affects REPORT, ERR and ERL.

The patch has been tested only with EPROM Operating System version 2.2 although it should also work with ROM version 3.0. Since it of necessity depends on certain specific features of the Operating System remaining unchanged, I cannot guarantee that it will operate correctly (or at all) with other versions.

The version of PATCH.BAS includes the powerful printing command called screen dump code, which may be called at any time with the command **CALL 11011**

RICHARD RUSSELL 27 MAR 1988

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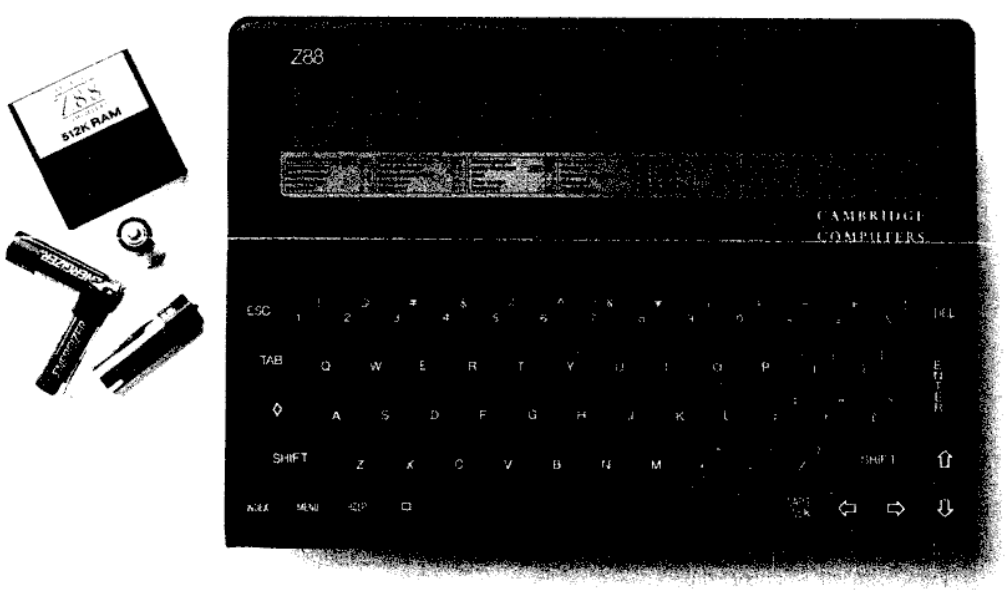

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The Cambridge Z88

Z88 News

It is no surprise that Cambridge MA has gone belly-up and is no longer involved in Z88 distribution and support. Their lack of support of the Z88 users was reported several times in Update Magazine. Never the less, the Z88 is a nice portable computer and is liked by all who own one. The Z88 advertised price is a bit high, but if one bargains with a dealer the price either comes down or extras are thrown in. Such reliable dealers as Sharps and Domino Cubes can be depended upon for needed service and supplies. Update Magazine has attempted to learn more about "The Cambridge Group" but less information is on hand than is needed to endorse the group as reliable to deal with. "Z88 FAX NEWS": This new publication has published six issues. Its size is four to six pages and is sent either via direct mail or via FAX to those who have FAX Machines. My copies are sent to me via direct mail. The cost is small ($8.00 per year), and is certainly worth the price to anyone who owns a Z88. The only other Z88 Publication is "KPROM", a small British publication that is quite costly for its size. "KPROM" can be subscribed to via SHARPS INC, who receives the issues from England and re-mails them to subscribers. Last year Update Magazine ask Sharps for their mailing list of Z88 users in North America for the intention of soliciting Z88 subscribers and building Z88 support in the pages of the magazine. Inexplicably Sharps declined the request.

Sinclair Research Ltd devotes little or no effort to support the users of the Z88 either in Britain or North America and there is no viable organization to fill the void. In spite of such limited information sources and lack of cohesive cooperation amongst the dealers and the media, Z88 owners are enthusiastic about their portable computer which speaks well of its versatility and ease of operation.

The following page of "Z88 FAX News" is reduced 25% and inserted as a sample of its coverage. The pages are on thermal paper which accounts for a few gaps in reproduction. JIM HUNKINS, by the way, is a long time subscriber to Update Magazine and has contributed excellent articles for publication. Update recommends that all who have the Z88 and all who are interested in the Z88 subscribe to Z88 FAX News. Curtis Claar deserves our support for his efforts to support us. Good Luck Curtis!

Elsewhere on the Z88 front, Mike Fink (Domino Cubes), has developed an extension of the Z88 Users Manual that everyone should have. I have Mike's manual and it helps me tremendously to go about doing things that the Z88 manual forgot to include. Mike gives a very good demonstration of the power of the Z88 Pipe Dream to set up page macros, in this issue.

Me? Well, the Wife and I intend to do some travelling soon and I'll take my Z88 along (padded between sox and underware) to do some computing on the road. I'll need something to do while She is busy inventorying gift shops. Does your Wife spend hours in a gift shop? Also, She likes to spend lots of time in swimming pools and I'd rather sit at an umbrella table with my Z88 (Occasionally looking up to see interesting sights). The 128K Ram Cartridge will hold several weeks of computing data to be processed through the printer when we return home. Might even develop a program or two (outside of a big gift shop). But the last time I tried to use the Z88 in public there were constant interruptions by the curious wanting to ask questions. Guess I'll have to do my computing in the car to keep from being distracted. BJ.

Z88 FAX NEWS

Publisher.....Curtis Claar
Facsimile.....Promo Productions
1820 MacTavish Ct. #112 • Rawlins, Wyo. 82301
Fax or voice (307) 324-6600

June 1990 Page Three

Another new column:

Jim Hunkins gives technical assistance

Keeping the keyboard working

It is amazing what portability does for productivity. As do many people, I find myself constantly on the run. My faithful Z88 follows me nearly everywhere, which is a good thing. My best ideas come at the strangest times, so I type them into their proper file on the Z88 whenever they come. This goes not only for work but also for program development and now, for this column.

This new column will offer usage tips, point out useful sources of information, and answer readers' questions. For this first column, I concentrate on keyboard related items.

Cleaning the keyboard

There are many ways to clean the Z88 keyboard, including the often mentioned strips of Scotch tape to remove dust. This is a bit tedious but works extremely well. My favorite way, however, is to use Armor-All, which tends to give the keyboard *the* wet look. If Armor-All gets on the screen, though, glass cleaner is needed to clean it off.

Cleaning inside the Z88

Eventually, depending on the use and environment of the Z88, some keys on the keyboard may become a bit hesitant in responding.

I know many users buy replacement keyboards to fix this, but this is expensive and often unnecessary. What usually has happened is the contact surfaces between the rubber part of the keyboard and the membrane itself have become dirty (dust is attracted to surfaces that conduct electricity).

It is usually possible to clean these surfaces, but please only attempt the following procedure with care or find someone to help you. Accidents will likely damage your Z88. Also back up your data and disconnect the unit from the mains before starting.

CAUTION: To clean these surfaces requires removal of the keyboard which will void your warranty. Neither ZFN nor James Hunkins is responsible for damage you may cause to your Z88 by following these steps.

You must first remove the screen holder so you can completely remove the rubber keyboard.

With the Z88 upside down, remove the top three screws, the two screws underneath the stand (one behind the serial number label), and the screw near the serial connector.

Now, holding the screen cover in place, carefully turn the Z88 over. Gently lift the screen cover from the unit and place aside.

Now gently pry the rubber keyboard up, starting from in front of the space bar. The keyboard may be lighly secured with a type of "rubber" cement but it will eventually come loose. Additionally, the edges are wedged in place and there are three plugs along the horizontal middle which need to be gently popped loose.

After the rubber keyboard is removed, take some isopropyl rubbing alcohol and, with a soft cloth, clean both the back of the keyboard and the membrane it contacts. Do not use any other solution or damage will occur to the membrane. Also avoid lint.

When dry, reverse the steps, making sure that the keyboard is securely anchored along its edge. This can be difficult and may require loosening the other screws on the back of the Z88.

If your keyboard still does not work, you probably do need either a new rubber portion and/or a new membrane.

Z88 TECH HELP
James Hunkins

How to reach me

Send questions for me either through Z88 Fax News *to my attention*, directly to me, or across the Z88 BBS located in Torrance, Calif. If you want a personal answer, please use the bulletin board or include an SASE.

Teller

from page one

version built in to the calculator proved especially useful there.

Teller bought his Z88, serial number 034862, from Sharp's and his system also includes a 128K RAM card and the PC-Link ROM.

So what does his partner Penn think of all of this?

Teller said Penn admires the Z88 a great deal "off and on." But he said Penn is one who asks "isn't something perfect going to come out soon?" And until it does, Teller said, Penn is willing to lug his Zenith Super Sport with him.

Teller, however is happy with the Z88, even with its shortcomings. A Z88 with a Walk-Man and a book would keep you occupied until hell freezes over, he said.

People mentioned here:

Cambridge Group
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Z88 FAX NEWS

The international newspaper for the users of the Cambridge Z88 – distributed monthly via fax

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Dear Timex/Sinclair Users Group Members:

If any of you have a Z88 — or are about to get one — you'll each want to subscribe to **Z88 Fax News**.

Z88 Fax News is the exciting new monthly newspaper all about the Z88. It features all the latest news, rumors, products, tips, and ads featuring the Z88 and related products. And to be timely, it is distributed via fax.

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Trust me, you simply won't want to miss another issue. That's why I'm personally (okay, so this *is* a form letter, but I still wrote it) inviting you to try us out.

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The normal subscription rate is $8.00 per year, but if at least three members of your group subscribe, it's $6.50. To subscribe and get the special group discount, simply complete the attached form and send it to us with payment. It's that simple. We're sorry, but we can not accept Visa.

I know you all will enjoy **Z88 Fax News**, but if you aren't quite sure, try a sample issue with no further obligation just for the asking.

Celebrating the
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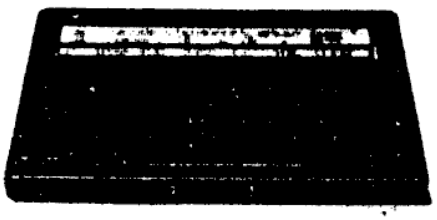

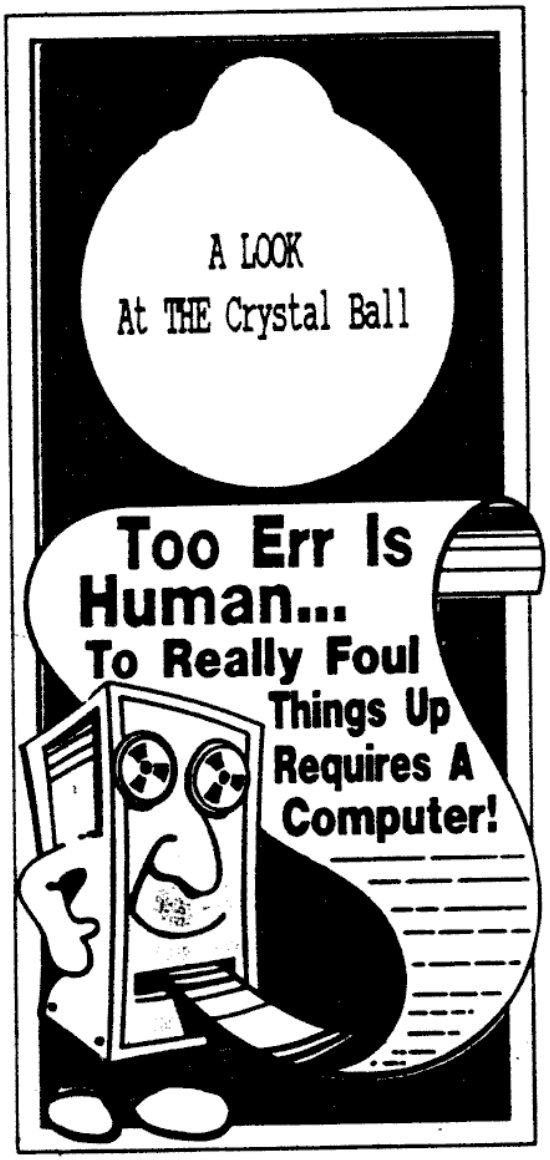

Crystal Balling Computer trends is my favorite pastime. Sometimes predictions come true almost overnight. The year 1990 ushers in a Warp 10 speed of Computer Evolution. The big trend of change is in HOME COMPUTING. As 1990 began there were some 18 Million computers in use throughout the USA. Add a few mil in Canada and England, plus a trivial number in the rest of Europe, plus perhaps a few hundred throughout the rest of the World. Maybe 22 Million total computers throughout the World were in use as 1990 began. The median cost per system was around $4000, which included printers, monitors, and disk drives. So we have been looking at a world wide in-use inventory of around $90 Billion worth of computers.

Look for a doubling during the 1990-1992 period! By year 1996 there will be 100 Million computers in the USA alone. By year 2000 the world wide use of computers will reach the half Billion mark. Such sharp increases require substantial advancements in technology. 1990 brings in Quantum Leaps in technology to fuel this gigantic revolution in computer usage. Recent new developments are:

FLASH MEMORY: Compact low power and high density memory chip storage is at hand. These new chips, the size of a paper match book, store a megabye of memory. The memory can be kept alive via tiny batteries kept charged by solar cells, as is done in hand held calculators. These high density chips allow computers the size of a note book to have more capability than our most expensive IBM 386 system of the present. This technology is available NOW and several new Computer Manufacturers are designing "Super Home Computers". But 1990 isn't the time to buy one. The early ones will be "too little and too early and priced too high".

FUZZY MEMORY: Funny name, eh? These memory cells store bits of data that are of fractional values between One and Zero. Take a typical "one Byte" storage of 8 bits. (Fuzzy) Fractional storage in the 8 cells in .001 increments will allow an "8 Bit Byte" to store values ranging from zero to 256000, instead of our current value limit of 256 values per byte. Advanced Central Processing Units are under development to read and write incremental values to these Fuzzy Memory devices. The New CPUs will also break the barriers previously set for memory addressing.

OPTICAL DISK DRIVEs are now a reality. One manufacturer already has a 3 1/2 inch floppy disk that reads standard 360 or 1.2 Mgbt floppies, but has diskette format capacity for 20 megabytes of storage. Hard Disks are on their way out of the computer world just as HD technology is peaking. The need for disk drive of any sort is rapidly diminishing, and by the mid 1990s disk will be only used for one-time software entry into the computer's own mass memory storage. Even that usage will disappear as new "card readers" are installed in the new computers for software entry. Who will need disk drives for "storage" when our computers have 160 mgbts of internal chip storage?

Computer programming will depart from how we know it to be today. Already the programmers are faced with un-managable depths of capacity in our (obsolete) 16 and 32 bit CPUs. Each new computer will be accompanied by an optional "Programmer's Kit" that itself is a computer. Voice commands,

accompanied with a few key strokes, will be enough for the CPU to create its own software programs. The enoromous amounts (by today standards) of computer on-board memory will allow whole libraries of software to be contained in computer memory.

1992 will mark the beginning of the end of computers as we know them to be today. The 20 million units in use mostly by business offices will rapidly be replaced by smaller office systems having 100 fold increase in capability. These 20 million obsolete units will be sold at clearance prices and will become our "Interim Home Computers". A Doubling of computers in use will be an almost imediate result. These old office systems that cost $4-12000 will sell first at $299 per system, then $199, then for as little as $49.00 at surplus stores.

In the meantime several intrepreneur new computer firms will introduce the "New Home Computer Family". We are already seeing some first blush models that are not up to the par required for success (Sharps, The Z88, and others). The first sucessful Home Computer to capture a million sales will employ a 1990 vintage 32 bit CPU and have 40 megabytes of on board memory, only 2 mgbts used for programming, and 38 for data storage. It will be the size of a page of paper, about two inches thick with a fold up screen having high res color resolution. The computer will be SOUND integrated, meaning that it will receive data input by voice and the data will be read back in simulated speech to be edited.

Such a computer should be available during the 1992-94 period and will likely sell for around $1200 at first with prices degenerating to $499 during a two year period. It will be successful because it will solve the present problems of small computers, namely "inadequate screen, and inadequate integration with a feed-in source for software". Also the idea of speech control is attractive. But this computer will be soon followed by the "real" home computer. The scenario is, American Industry now smells a multi-billion market. Great incentives are present and Competition is savage. The Japanese will try to dominate this market, but their culture and language are not adaptable to understand the need.

Lets take a few minutes at the home coffee table with the computer that will sell to 100 million families during the time frame of 1994-2000. We bought the computer for $495 at Sears Roebuck. It is powered by solar cell. There is a long life battery inside that is kept charged enough during daytime to keep its 160 megabytes of memory from fading out. New Software programs come on "credit card size" cards that are inserted momentarily. We have the Encyclopedia Britticana stored in memory, plus the whole New Webster's dictionary. Other full works of literary arts and science can be purchased from Sears, or other suppliers.

The computer is also a remote telephone, and it can be hooked up to the television for scheduling programs and for video recordings or play back. But now I'm using it to write a manuscript. I have entered the text in plain voice, never touching the keyboard. Now I ask for a read-back. The computer begins read back in Lauren Bacall's lusty voice. I say, "STOP Back Up to "Whistle". "Replace with "Call Me". Lauren reads it back: "Just pucker your lips and call me". I say, "Continue", and Lauren picks up the read back again. (Computing should be fun, eh?)

By the year 2000 Home Computing has really caught on. Schools are beginning to issue student computers in the classroom. HRS issues them free to the under-privilidged. The Wife reads an exoitic food recipe into the comuter from the morning paper each day. When she cooks the computer reads the recipe ingredients to her (In Humprey Bogart's raspy voice) as she mixes up a Swiss Chocolate canape. The arguements over use of the computer forces Dad to buy another one for Mabel, one for John Boy, and as Mitzi reaches age 9 one appears in her Christmas stocking.

Back in 1998 the successful American Corportions moved their production to China to take advantage of cheap labor. Within a couple of years the Chinese learned the production process and began manufacturing clones. These Chi-comm clones are selling for $79.95 in K-Mart Stores. American Manufactures are lobbying Congress for Trade Sanctions.

History tends to repeat itself. Seems that I remember something like that happening back in the 70's. In the meantime, my Sinclair Computer is still working well and I'm waiting for Sir Clive's next Z. "How old are you, BJ?" "Gee, I dunno, Son, I lost track when they went to Metric and added three days to the week and chopped off two munths from the year." "The bells tells me when its Sunday, but The only way I knows when it's Sattiday is when the post orfice dont open." "And how old are you, Son?" "I'm 15. I was born in 1990". "That was a good year, Son".

WOOD AND WIND COMPUTING

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QL SOFTWARE

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QUANTA LIBRARY

QUANTA's Public Domain Software Library is now available from the U. S. Sub-Librarian.

The Library is now divided into catagories and is on 45 QUAD (1440 sectors, 720K) disks and totals around 28 MEG. You can get it on several different formats.

Those who are still using microdrive cartridges SHOULD join QUANTA and order individual programs. The microdrive version of the Library takes over 240 carts.

QUANTA members may order any program, disk, or combination of programs and disks from the Library.

Not a member of QUANTA? Interested in the library? Join QUANTA or consider the purchase of the entire Library at once.

I suggest those with old sets of the library order the new Library Guide and see what they need to update their library first.

Information about joining QUANTA may be gotten by returning the reply portion of this page along with a self addressed stamped envelope.

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QL CRASHES-AN EASY FIX

There have been many articles concerning the cause as well as cure for QL crashes. These articles have basically attributed these crashes to:

1) Glitches on internal power and ground PC runs; the fix is to add capacitors.

2) Internal heat build up; the fix concerns the computer's 5 volt regulator.

3) External AC power problems; the fix an external power supply.

This article provides an easy cure for random occassional lockups. As this is an easy fix, it is suggested that you try this one first.

My QLs, in accordance with previous articles, do have the capacitor modifications. One of my QLs however would still have an occasional random crash, several times a day. Because of its randomness I suspected "noise" from the external power source rather than internal heat.

My original solution was, in accordance with an "Update" article, to add a high grade Coleco external power supply and including, to eliminate internal heat, bypassing the QL's regulators.

My intentions were good however I was pressed for time and decided to try replacing the QL's external power supply with a low grade substitue that I was no longer using. This power supply produces 9 volts from a simple transformer / rectifier / capacitor circuit, similar to the QL's. A seperate transformer was added to produce the required 15VAC.

This simple short term fix worked; no more crashes for over a year. I wondered why, but never pursued it further.

One day while reviewing the QL's power supply schematic in a back issue of "QUANTA" I knew why. The QL's power supply with one exception is similar to mine. In fact, it was intended to be much better! The QL's power supply has an added component, a SCR to clip voltage spikes.

SCR's are neat devices but sometimes treacherous to apply. If not applied properly they can turn on at the wrong time. Also, once turned on, they stay on (even if clipping is no longer required) until their current becomes zero.

The SCR does have a calibration adjustment, however I removed it by clipping off its 3 leads. I don't believe that the loss of clipping will damage the QL, if unsure use an external spike protector.

I'm now back to using the QL's power supply; no problems. Clipping the SCR's three leads is simple, see the attached sketch. The procedure consists of:

1) Unplug the power supply (very important)

2) Turn the P. S. upside down. Insert a Phillips screw driver into the four holes and remove the four screws.

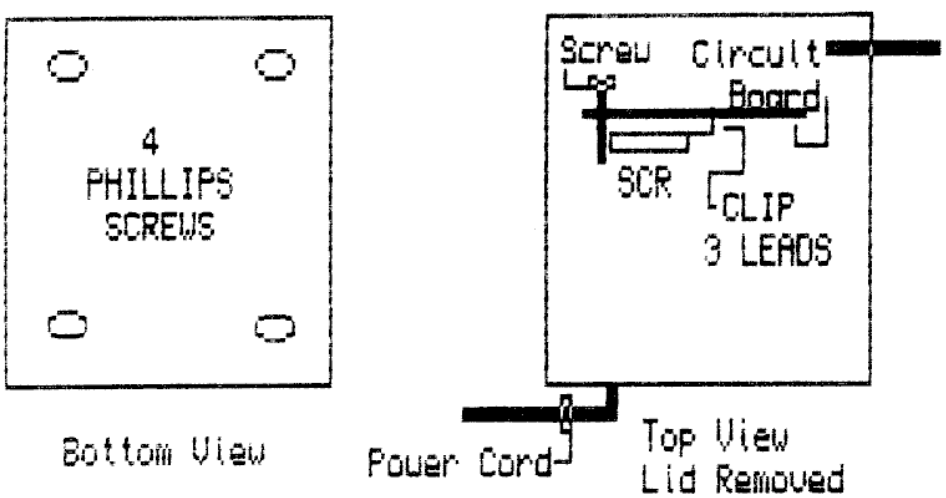
3) With the P. S. right side up, lift the top off.

4) Clip the three SCR leads, see the sketch.

5) Reverse steps one through three; put the P. S. back together

This simple fix should eliminate those random lock-ups which are power supply related.

Mort Binstock



text87 and Quill
Part II

Peter Hale, P.O. Box 8763, Boston, MA 02114

Last time, we explored a number of differences between Quill and **text87**, the new word processor for the Sinclair QL and Thor.

Mostly, we discussed features found in Quill and the comparable features in **text87**. This time we are going to discuss BLOCK handling and a number of features (and how to use them) that make **text87**'s visual presentation so remarkable.

BLOCK HANDLING replaces a number of Quill commands: Copy, Erase, Print-to-file, and painting print enhancement (F4, P for paint) and adds the ability to modify a section to be design/margin/tab/font compatible with some other part of the document.

Block handling is far more powerful and flexible than in Quill. As with any increase in power and flexibility there is a learning curve because the sequence of operations is the reverse of Quill's.

In Quill, one selects an operation (e.g. Copy), then defines the Block with the cursor. **text87** first defines the block, then the operation. There are real advantages to this approach.

From the main menu selecting Block creates a pair of white cursors under the red cursor.

All cursor functions may be used (up to 40 lines at a whack) to move one of the white cursors to another location (the one not moved first, cannot be moved later). Pressing ENTER sets the location; pressing ENTER a second time highlights the entire block. The block is set only if ENTER is pressed when the red cursor is over the moved white cursor and **text87** automatically returns to the document after Block setting.

The next time Block is called a range of options is presented: **Copy, Delete, Move, Ruler, Type, Unset**, and a weird one called **Goto**.

Copy, Delete, and **Move**, are self-explanatory. **Delete** erases the highlit area, but has the civil feature of verifying to Delete if the text is more than 100 words. **Move** deletes the block and inserts it whereever you have moved the cursor to; similarly with **Copy**, and the original remains. The advantage of this approach is evident to anyone who has tried to Copy a block of text or Erase it in Quill: cursor movement is swifter without having to carry other information with it, and when back in the main menu you can go directly to any line in the document.

Ruler and **Type** are functions without directly comparable equivalences in Quill. **Ruler** under Block changes the highlit area to whichever Ruler is currently selected. **Type** changes the highlit area to whichever Type is defined as Type 0 under the F3, Type command.

There is a new command in version 3.00 of **text87** called **DOC** that permits universal exchanges of a Ruler or Type throughout a document. It is particularly helpful with two printers and a need to change screen fonts in an existing document to match the codes applying to the second printer.

Goto is Fun! F3, B, G takes the cursor to the beginning of the Block from where ever it happens to be at the time.

A major advantage of this approach is that it is possible to keep a block highlit for an extended period, get on with other word processing chores, then utilize the block later. The highlit block is even saved with a document and is available when you return to it another time.

The word **text87** is a tricky bit of font mixing that appears frequently in this article. It is highlit during most of the writing. Whenever it is used, it is copied.

Unset releases the highlighting.

WYSIWYG and HOW to GET IT

text87 has the ability to present on the screen text in screen fonts that by shape and color indicate the printer font that will be printed.

This is not automatic, because the driver choice depends on which printer you have and your taste in screen appearance.

In Quill, the screen representation of Bold, Underlined, Superscript and Subscript is a fair

visual presentation of the output at the printer.

text87 requires that you select a screen font and attach it to a printer font before it shows.

Out of the box the program has a proportional font called Default 11 (for 11 characters per inch). As you type away, characters are spread across the screen with the letter "i" taking up less horizontal space than the letter "m".

However, unless you attach a specific screen font to a specified printer font, the text on the screen will be in Default 11 irrespective of the actual printer font chosen. (By pressing F2, the command window reports the actual printer font under the cursor.)

The good news is that the screen will only show half as many characters for double-wide as for single-wide, but otherwise it is sloppy.

text87 also comes with 10 other fonts ranging from the QL font in single and double-wide to Super and Subscripts, Roman 21 and Orator 10.

If you have **founted89**, you can create your own fonts or if you have **fountext88**, there are 33 more supplied.

None of them are available to you unless you load them (which can be done automatically from within **text87** if you follow the simple instructions to create an auto-loading instruction file called FOUNTS_A87.) The FOUNTS file can load as many different screen fonts as you want at once, but 8 is a recommended maximum. The screen will only show 8, by number and example, and each additional font takes up more memory.

text87 comes with a large selection of 9 pin and daisy wheel printer drivers. One of them will fit your printer. There are drivers for Epsons, IBMs, QL printers, and even a GLP. (A dozen 24 pin printers are supported, but only from an optional disk, **2488**, for £15.00.)

Each driver has the information to support most of the features in your printer. Although you can load it separately by name after **text87** is up and running, if it is backed up as a file called driver_P87, it automatically loads on power up.

A sample document illustrating each printer's capacity is included together with a general INFO file on all printer drivers.

From the **CONTEXT** command in the main menu there are a bewildering array of choices, most of which will be discussed next time.

The important one is **Attach**. Press A and the choices are Attach (again), Feature and View. These are fairly obscure choices if you haven't read the manual. The first is View, so you can get an idea what's happening by looking at it.

The screen shows a named and numbered printer font under the heading FEATURE. Depending on the printer, there are up to 14 enhancements like Underlining, Bold (actually double-strike)* and Super and Subscript under the heading OPTIONS. The heading FOUNTS has 6 color choices and an example of each loaded screen font.

A FEATURE is a combination of Printer font, pitch(es) and certain enhancements. One Feature is called SanSerif (a printer font), Proportional space, Italic, Single-wide, Double-high.

Examples of up to 99 additional FEATURES are scrolled by pressing V for View. Better to read the DRIVERS_INFO_T87 file and get the hang of the numbering system, which is logically organized.

What strikes the eye immediately is that each OPTION has a different color(colour?) - red, green and white, with and without underlining - for each example of an option.

The screen fonts attached to each option of a feature are normally the same but with different colors and/or underlining. However, there is the opportunity to attach a font to just one option of a feature. You can attach Superscript font (from the _F87 file of that name) to the Superscript option of any given FEATURE.

After you have attached a number of screen fonts to a number of printer fonts, **don't do a thing** until you have saved these Attachments to the driver.

*** An English queen once observed in a Wonderland that "A word means exactly what I choose it to mean"**

In addition to carrying all information about a given printer, the file named driver holds all information about the attachments. So save the choices from the **CONTEXT** sub-menu Driver, Save either as "driver" or another name to identify a collection of screen/printer font attachments.

BY THIS POINT you are ready to cry "Mommy, I finished my home work. Can I go out to play?" but the answer is "No, not until you have cleaned your room!"

text^{87}'s cleaning-the-room is that you still can't get at any of these screen font/printer font combinations until you hotkey a combination.

Shift-F3 and Shift-F4 are the hotkeys and are set from the **TYPE** command. The Options are **Select, Feature, Option, Key** and **View**, very similar to the choices from **CONTEXT**'s **Attach** command.

Press V for View here so you can see what is happening. On the right is a column of rows numbered 0 to 9. A first, each row will be the Feature/Option combination 0/0.

The idea is to attach one or more **Keys** to different Feature/Option combinations. First, identify the most common printer font you will be using. This will be attached to Key 0 (zero).

Press K for Key, then 0. Hereafter, until another Key is chosen, any selection of Feature and/or Option is attached to Key 0.

Next, press S for Select. Choose a Feature, by its number, then an Option, by its number. Immediately, the Feature and Option chosen is reported in the row for Key 0. This can be edited by selecting just Feature or Option from the Type menu.

Add several other Feature/Options to other key choices, being sure to pick some double-wide and 12 pitch or condensed fonts as well, then save them to the driver_P87 file so they will come back the next time you run **text^{87}**.

"Can I go play, yet?" "Yes, my dear, and doesn't your room look lovely!"

In the main document press F2. Below the document window will appear the font that you selected for Key 0.

Type a few words, then press Shift-F3 to select a new printype (combination screen font and printer font in **text^{87}**-speak) to go under the cursor.

Any of the Keys except zero will now pop a graphic character under the cursor. It will have an abbreviation of the selected printer font, underlining if that applies, and the chosen color. The character will also be in the screen font you attached to the Feature/Option.

As you continue typing the text will be in the new screen font so long as the graphic character is to the right of the red cursor. If the graphic character is erased, the text will be in the font attached to Key 0. If the F2 is on, you will know exactly what is going on under the cursor.

When ever you want to return to the font attached to Key 0, even in the middle of some other font, merely press Shift-F4.

Again, Enough!

The next article in this series will explore the different features that are saved in the configure_C87 file: including Inverse video, Windows, Scale and various default settings.

text^{87} is £60 from Software87, 33 Savernake Rd., London, NW3 2JU United Kingdom for £60. It includes Qtyp, an integrated spelling checker with English, French and German dictionaries - a £30 value alone. It is available in the USA for $94.95 from EMSoft, P.O. Box 8763, Boston, MA 02114-8763 (617) 889-0830.

A SuperBASIC tip:

To make a hard copy of a SuperBASIC listing, it's not necessary to open a channel to the printer (OPEN#3,ser1: LIST#3: CLOSE#3).

Load the program into memory, then type **save ser1 <ENTER>** in the command mode (from the keyboard). (Just be sure the printer is on.)

TORONTO TIMEX-SINCLAIR USERS CLUB
14 RICHOME COURT
SCARBOROUGH, ONTARIO
M1K 2Y1

INFORMATION SHEET

Many people inquire about our club, and these notes have been put together to provide, in a convenient form, a little background information about ourselves.

Our club had its start when a new ZX81 owner, Pete Harvey, placed an ad in the Toronto Star. He asked if there were any persons interested in getting together to talk about their computer. About 12 people responded. I was one of them. We met in our homes every week, for a month or so, then started meeting in a spare room in a bar, then in a public library. A second ad in the Star produced another 20 or so new members, and it was decided to form a club, get out a newsletter, and institute a $20 annual membership fee.

From these beginnings the club has grown to where its membership stands at a fairly constant 100-110 members, with a normal meeting attendance of 35-40 members. Members range in age from 16 to 65 and older and represent all walks of life. Most members use the 2068, the rest the ZX81, with a few members having the QL. of our total membership, about 50 members live out of town, from Halifax to Vancouver.

Our club publishes a 12 page (6 sheets) newsletter 6 times a year. We have a sizeable program library on cassette tapes, for both the ZX81 and the TS2068. We also have a paper library, consisting of, among other items, some 30 books on the ZX81/TS1000, 20-odd books on computing in general, and several books on the TS2068. Both the books and tapes can be borrowed for a nominal 2-week period. There is no charge to this.

Our club maintains a newsletter exchange with other Timex computer clubs in Canada and the U.S.A. Currently we exchange with other 20 clubs. These newsletters are in the club library, and can be borrowed on the same basis as the other books.

Out of town members are served by mailing out the newsletter (in-town members must pick their newsletter up at a club meeting). Out of town members are also served by providing them with a catalogue of library program tapes, and mailing out to them, their choices of programs. There is no charge for this service, however the member is expected to pay for our postage cost of mailing. Other library items are available on the same basis. We also try to give advice on problems, and to supply information on request.

Meetings are held in Toronto at Forest Hill Collegiate Institute 730 Eglinton Ave. West. (On the north side between Spadina and Bathurst.) Meetings are held on the 1st Wednesday of each month. Members start to arrive at the meetingplace soon after 7:00 pm, to have conversations with other members, and to return borrowed tapes, etc. The more formal part of the meeting starts at 7:30 pm. Following disposition of club business, a presentation by one of our members is in order. It may be a demonstration of hardware, or of software that the member has written or is familiar with. Meetings have no formal closing; most members will have departed by 9:00 pm; the diehards remaining till 9:30 and later.

Membership dues remain at their original level of $20, applicable to all members.

Informational material prepared by G. F. Chambers (Secretary TTSUC 416-751-7559).

Ed Note: George is quite modest. The June / July issue of Sinc Link was a whopping 40 pages of useful information with an additional 4 page newsletter for out of town members. A QL sub Group under leadership of Hugh Howie is eager to reach more participating QL users.

BEGINNER'S PROGRAMMING, ALL COMPUTERS

INKEY$, CODE, CHR$, IF, THEN, GO TO, RESTORE, READ, DATA, PRINT, LET, STRING CONCATENATION, LOOPS, RECURSION

AN UPDATE TUTORIAL

My, My! I hope that the convoluted title doesn't scare you off. If you are dazzled by alla them terms, just take a peek at the tiny listing at the end of this article, which uses all of the key words listed in the title. Then you will see that the whole bite wont choke you. All we're gonna do is to get familiar with how to use these key words together to make the computer do something useful. That's what PROGRAMMING is all about, and it ain't too tough to compresend, even for a Florida cracker like me, who mixes them particycles and splits them infinitudes with regularity alla time. (Can't spell real good, neither).

These platitudes will fit just about any computer, but with slight differences in syntax. The listing is in QL BASIC, but I'll kinda zap in the changes for the TS-2068 as we go. AND, there's better ways of doing it but there ain't none thats no more simplier.

Now what the little listing called "inkey" does is to read the keyboard, display what is typed, and collects everything typed into the simple STRING "A$", so's you can do something else with the prose iff'n yer inclined to do so. But the real purpose is to getcha interested in PROGRAMMING so that you can eventually construct little utilities to SAVE to mdv or disk to use for many of yer own purposes. One thing that I learn't back durin the Z-80 days was that keying in utility program lines is the best way to learn it durn it. Then experimenting with other ways to dun it is even more better.

Now a good way to make this epistle even more edgikationshul is to look up each of the key words used in the "Key Words" section of the user manual. Each one of them KEY WORDS has broader application than used for in this tutorial. Now lets get started with the explanations.

Line 100 and 110 clears the screen and then "initializes A$" as "nothing", but ready to be assigned characters.

Line 120 assigns "variable A" to the code number of a character being read from the keyboard. "INKEY$" makes the computer do the keyboard reading job. TS-2068 users, just leave off the brackets inclosing INKEY$. Each character has an "ASCII CODE number", like the character 0 (zero) is 48, and the space character is 32, and the "z" character is 122. Just to prove that, type: PRINT CHR$ (z). Now type: PRINT CODE (122). See how CODE and CHR$ correlates? So, if we say LET A=CODE (INKEY$), as we do in line 120, then we are saying "assign the ASCII CODE number of the KEY STRUCK to variable a". Now what happens is that the computer sits there and reads the keyboard about a jillion times a second, and every time it does it assigns a number to variable a. It works the hell out of "a" but we dont care bout that. Everytime it reads the keyboard, the computer goes on to line 130 and beyond.

Line 130 has "IF THEN" conditional logic. We want the computer, while it is reading the keyboard, to "keep on reading it" IF the KEY STRUCK is not one of the PRINTABLE characters. Remember that "variable A" contains the code of the keyboard character. Code zero is "no key", and we dont want any character LESS than 32 (space) or more than 122 (z) to be accepted. So, line 130 tells the computer to GO BACK to reading the keyboard IF the key struck isn't in the range of "space (32) to z (122)". If you like names, this is called "recursive programming", which means that you have created a loop back to keep on doing something. In this case it is to line 120.

Line 140 does a similiar task, but in this case we provide an ESCAPE from the keyboard reading. IF the key struck is "#" THEN we make the computer GOTO line 200 to end the action. So, your escape from keyboard typing is the "#" key.

Line 150 is a little harder to understand. RESTORE is a command that tells the computer WHERE to "START READING a DATA LINE", and to "READ the FIRST piece of data

in that line". WHAT LINE? In this case we dont specify the line number, which tells the computer to READ the FIRST DATA LINE in the WHOLE program, no matter where it is. Line 150 would work just as well if we make it read 150 RESTORE 200. We could make a READ command start at any DATA line by specifying the line number in the RESTORE line. Example, "150 RESTORE 300" would make a READ command start READING DATA pieces at line 300, "even if there were several DATA lines ahead of 300". The commands "RESTORE, READ, and DATA" work together as syrup, butter, and pancakes. AND, any of the three commands used REQUIRE the other two to exist.

Line 160 tells the computer to READ the DATA line specified by the RESTORE in line 150. Since line 150 did not specify a line, then the FIRST DATA LINE is the one to read, which is line 200. At line 200 there is only one piece of data, and that is variable A. Variable A contains the keyboard character code (assigned back at line 120). So, each time a key is struck, line 160 picks it up with the READ command. It is significant to note that RESTORE is used at line 150 "after each keyboard read". This starts the READ over at the beginning of line 200 to read the single number in variable "A". Otherwise, if RESTORE was not encountered, an END OF DATA report would stop the program after the first READ.

Line 170 takes the character code that was READ at line 160 and converts the number to a character, and prints it. The semicolon after keeps the next print position on screen consecutively, instead of skipping down a line, as would be the case without the semicolon.

Line 180 adds each character generated at the keyboard to A$. Then A$ gets larger and larger as characters are typed. For TS-2068 users, replace the "&" with "+". Such adding of characters onto an existing STRING is called STRING CONCATENATION. Try this in the direct mode: LET A$="I Love " ENTER. Then: PRINT A$ ENTER. Then: LET A$=A$ & "this!" ENTER. Then: PRINT A$ ENTER. Incidenally, some computers wont allow a simple string (A$) or a dimensioned string < DIM A$ (5,255) > contain more than 255 characters. Sinclair computers allow us to store an almost unlimited number of characters in STRINGS. This makes it very useful to use STRINGS and Character Arrays as DATA BASES.

Line 190: The GO TO makes the computer go back to pick up the next key struck. This is called a "loop back", or "recursive programming". We could use a "REPeat loop" here with the QL instead, but simple basic is just as good for this purpose.

line 210 is the beginning of the "loop ESCAPE" routine. Back at line 140, if the "#" key is struck, the computer is told to go to line 210. At line 210 we Clear the Screen with CLS. Then 'PRINT A$' prints the collected A$ data to the cleared screen. Each of the two back slashes "®®" causes a line space on screen. The COLON after CLS lets us add another keyword for the computer to execute, instead of using another program line.

The loop escape routine at lines 140 and 210 allows us to construct other routines to do such things as EDIT the data, save it to mdv, or whatever we need to do with it.

Tutorial "inkey$"

```
100 CLS
110 LET a$=""
120 LET a=CODE (INKEY$)
130 IF a=0 OR a<32 OR a>122 THEN GO TO 120
140 IF a=CODE("#") THEN GO TO 210
150 RESTORE
160 READ a
170 PRINT CHR$(a);
180 LET a$=a$ & CHR$(a)
190 GO TO 120
200 DATA a
210 CLS: PRINT A$®®
220 PRINT "Construct what to do at line
200"
230 STOP
```

NEW QL ISSUE DISK FOR MS-DOS

Editors Note: Here we have a new ISSUE DISK for those of you who have purchased, or are considering, the Solution or PC Conqueror. This should make it easier for you to become acquainted with this "other system" of computing. Al Feng has done his usual great job in helping to educate, while maintaining the Sinclair computing concept. This new ISSUE DISK is available from UPDATE COMPUTER SYSTEMS, P.O. BOX 1095, PERU, IN 46970. The cost is $22 which includes all postage and handling, with the usual UPDATE guarantee of satisfaction. When ordering please specify what size disk (5 1/4 or 3 1/12) and 720 or 1440 sectors.

EMULATOR COMPANION / UPDATE

The Emulator Companion / Update (i.e., ´EC/U´) is a set of QDOS and XOVERed MS-DOS programs assembled for the novice MS-DOS user.

The BOOT and BOOT_EXE are intended for software emulator users. BOOT_EXE allows for various "disk drive configurations" and also includes a convenient clock setting routine.

FAST_DISK (requires SuperTOOLKIT) clones MS-DOS disks on your QL.

Three, proven MS-DOS FREEWARE programs have been selected for their compactness and utility: DIRMAGIC.COM, FREE.COM, and HELP.COM. DIRMAGIC is a good front-end; FREE lets you determine the number of bytes that are FREE on a disk (particularly useful for unlabelled, formatted 5.25" disks); and, HELP.COM is an on-disk DOS command help program with data on 60 DOS commands whereby you simply type ´HELP command(.name)´. For example, if you need or want help on FORMAT.COM, you would type:

a:\> HELP FORMAT <ENTER>

and, you would then see a "page" of HELP. Typing ´HELP´ (alone) would give you a list of the 60 commands included in the ´.DAT´ file.

The 60 commands from the ´HELP.DAT´ file have been converted to a ´MINIMAN_txt´ file which can be printed directly with the appropriate QDOS utility (e.g., QLUSTer), imported to QUILL and printed, or XOVERed to an MS-DOS file and printed (rename ´MANUAL´ to something else, rename ´MINAMAN_TXT´ to ´MANUAL´ and then use PRMANUAL.COM).

A ready-to-XOVER AUTOEXEC_BAT and two CONFIG_SYS files (one for DOS 3.nn and one for DOS 4.nn) are included. A PRIMER_txt which recapitualates the QDOS MUTILATOR article is also included for editing/printing.

A-B Boxes, and other Ramblings
by Al Feng

One can only envy Bill Jones's dilemma of potentially needing more space than his system table provides (UPDATE October 1989). While Bill's need is currently hypothetical, many people already face a space dilemma.

Bill already describes the existence of an A-B box in his overall system. For those of you not familiar with A-B boxes, they are simply switches having between two (2) and 50 (?) connectors which are simultaneously switched when a button is pushed or a knob is turned. The type of connector which is plugged in can vary widely. For the average "home" computer user, the 36-pin CENTRONICS A-B box is probably the most prevalent since this is the connector used on all parallel printers.

To digress for a moment, let me mention that one member in the local user group that I belong to did not know what "type" of printer (parallel vs. serial) that he had. Sheesh! Pressed for a simple description of the plug on the end of the cable, he told me three prong! Okay, I wasn't specific. I then asked for the "other" cable which connected to the computer. He said that it was plastic. ARGHhhh! Okay, did the socket on the printer have wire retaining clips, or not? "Yes." Now, we were getting somewhere.

The wire retaining clips are probably the hallmark of a CENTRONICS connector. As mentioned above, by convention ALL parallel printers use this connector on the printer. This does not mean that another type of connector could not have been used, or could not yet be used to connect a parallel printer to a computer. Similarly, a 36-pin CENTRONICS connector does not have to be used for a printer connection.

Just as a horse is a horse, a switch is a switch, and a connector is a connector. In this instance, off-the-shelf connectors and switches can be used in a CUSTOM configuration. Just remember to put a label on the connector, and you won't wonder why the other end of the cable has an "odd" connector on it.

Okay, why am I talking about 36-pin CENTRONICS connectors? Well, as it stands, these connectors and "matching" A-B boxes are probably the most prevalent (easiest to find, and CHEAPEST). Since almost all (?) Sinclair based computers use IBM compatible drives (Bill may be correct in referring to them as "Shugart-type"; but, you all you need to know is when buying is that it can be used on an IBM type personal computer), if you can plug it into your 2068's disk interface then you can plug it into your QL's disk interface (and, vice-versa).

Hello. Let me repeat that: If you can plug a particular disk drive into your 2068's disk interface, then you can plug it into your QL's disk interface!

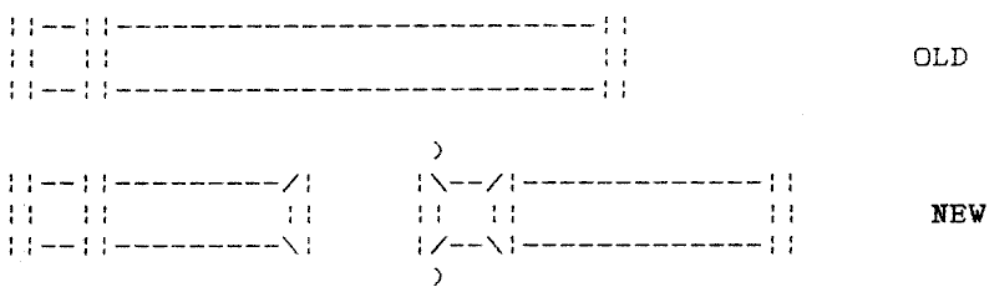
What this means is that you only need one set of drives for both your QL and 2068. The only provision is that you, of course, have to ensure that the proper disk is being accessed by a particular computer (If this is a problem, you can spend a little extra for colored disks, and color-key your switch accordingly). Of course, an improper format will not be read by the wrong DOS.

While I have your attention (Hello, Mr. Kenny), wouldn't it be nice for people like Bill Jones if a version of LKDOS/2 were developed which mimicked the QL's disk format. I suggest that the 2068 world consider making the conversion rather than the other way around because ALL QL disk interfaces follow the same specifications ordained by Sinclair Research Ltd. (we remember them, don't we? And, as 2068 users sadly know, there is no single convention for TS-2068 disk interfaces.

OKAY. Obviously, programs would not run if they were written for different computers. THE REASON to have compatible disk format is to allow for simple ASCII file transfers. This would preclude the need for modems, et cetera. Need I say more?

Meanwhile, back at the ranch house ...

What we want to do while we wait for the Millennia is to use a CENTRONICS A-B box to switch between two different (or, similar) computers which can use the same drives. The A-B box uses female connectors. Note the following illustration:

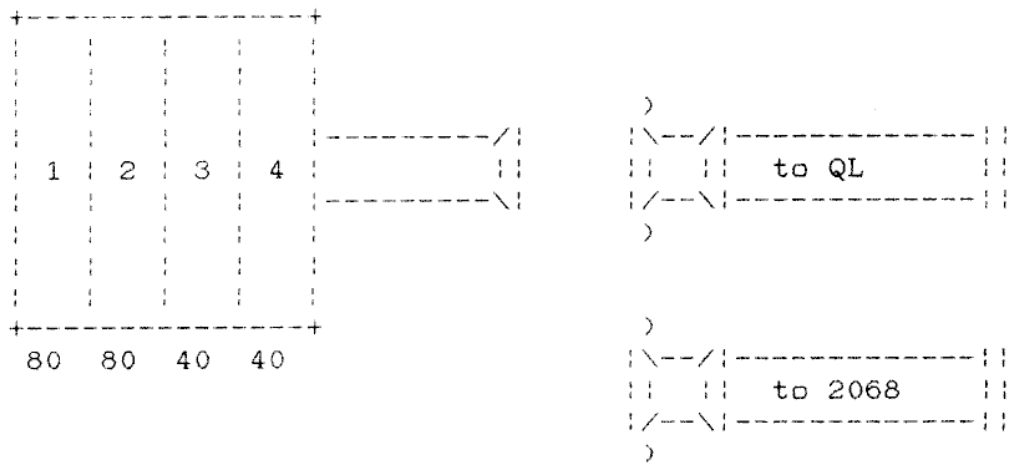


The "cheap" way, if your cables are long enough is to simply cut the cable in half, and attach a male (without clips) CENTRONICS connector to each half. Do this for each "original" cable.

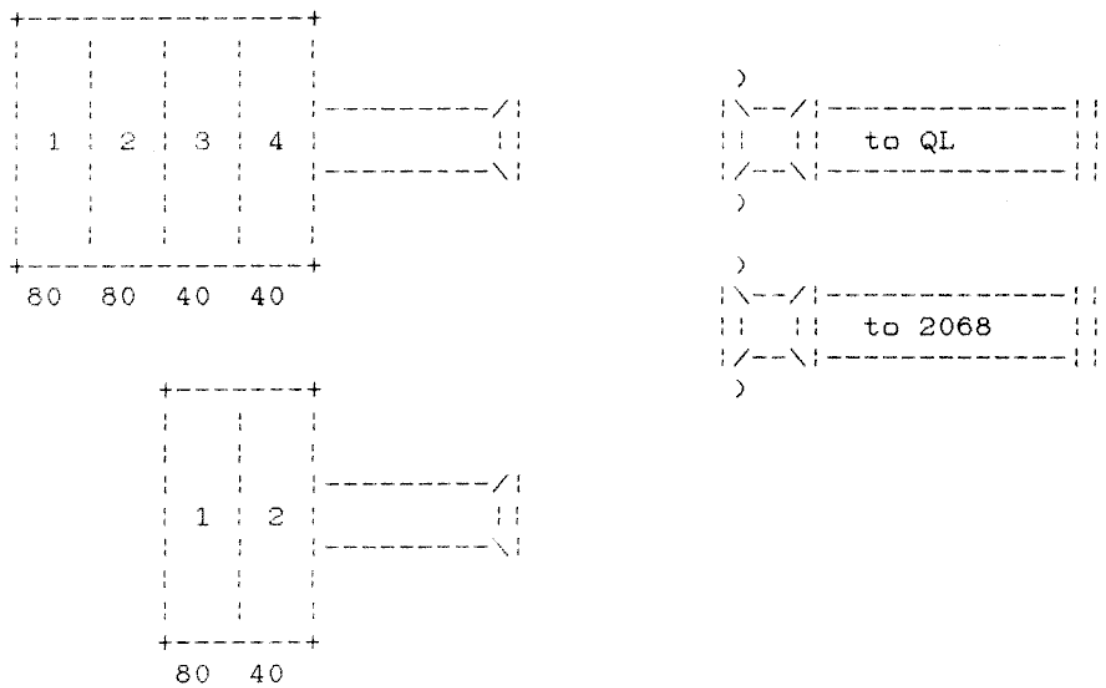
Note that the "NEW" cable illustrated also has a female CENTRONICS connector (with clips) so that the A-B box need not be a part of the connection. This is one of several optional configurations for your cables.

The older TRUMP Card disk interface (for the QL) only allows access to two physical drives (presumably the TRUMP card interface simply ignores "extra" drives which may be connected to it). Nonetheless, some allowances need to be made.

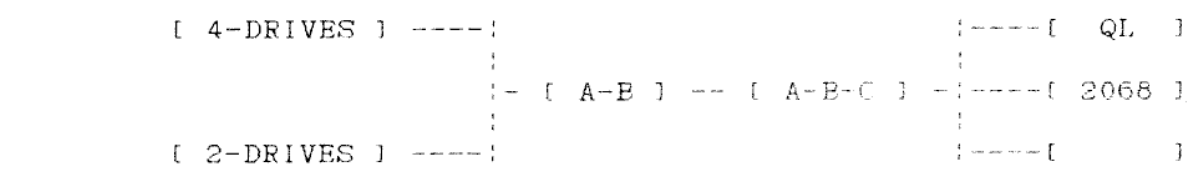
Bill's system currently has five (5) 720K disk drives and three (3) 360K disk drives. Allowing that the TRUMP card does indeed ignore any extra drives which may be on-line, then the following initial set-up will serve Bill well (A-B Box not "shown"):



Of course, Bill's "NEW" cable needs four edge-card connectors, one for each drive. Having an A-B-C box would allow a third computer to access the same drives. Using a second A-B box connected to the first with a "standard" male-male CENTRONICS cable would make another disk combination (80 Track & 40 Track) available to either the QL (for FORMATting MS-DOS disks when in emulation mode) or the 2068 in a simpler 1st and 2nd drive configuration.



Bills overall configuration might look like this:



There are cross-over boxes [e.g., AA-BB] which may have the correct configuration. Regardless, the "A" and "B" letters on the box(es) should be clearly re-lablelled with "correct" information.

Since Bill has two RGB monitors, unless he is doing side-by-side, simultaneous screen comparisons, he can consolidate these with a 9-pin serial A-B box. The difference here is that the re-wiring may be a bit more tedious (varying pin-outs may make it easier to make the wires from "scratch").

The object of all this discourse is to recapture some table-top space by consolidating the disk drives, et cetera. Since the disk drives are essentially "dumb" devices, they can respond to only one disk interface (controller) card at a time. Once addressed, the drive(s) need to be reset (turned off/on) before being used by another controller card.

Your needs may vary; and, you may find that powering down to access a drive by the "other" computer to be too inconvenient. Regardless of your needs, shop around. The cost of an A-B box varies widely; and, the same is true for the connectors.

You may only have a disk interface for a QL, or alternatively for your 2068. If you use more than one type of computer, you can limit the cost of adding disk drive capability to the cost of a "new" interface, an A-B box, and some connectors.

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CABLE COLUMN

By Bill Cable

ARCHIVE SERIES
PART 2 : ARCHIVE Data Structure : The Good and The Bad

All database systems force some structure on the data put into them. They have commands that can take advantage of that structure to do time and effort saving manipulations of the data. The last Cable Column gave many examples of databases ending with a description of PSION's ARCHIVE Database System supplied with each QL. ARCHIVE is a relational database system with its data structured in a record/field format. This is analogous to having predefined file cards where specific information (fields) go on the card (record). Each ARCHIVE database has its own special record/field structure that is defined when it is first created. That structure (master template card) can never change for that database.

It seems that ARCHIVE has a few loyal supporters and many critics. Part of the disatisfaction with ARCHIVE arises from the fact that ARCHIVE is closer to a Database Language than a Database Front End Program. ARCHIVE is like a SUPERBASIC for handling data. Those of us who really like it are impressed by its flexibility and power. We have been willing to put in the effort necessary to learn its language and have been well rewarded. This series of articles will hopefully present ARCHIVE in a way that gets more UPDATE readers taking advantage of this fine database system. If you have learned to write SUPERBASIC programs even a little then you will find the ARCHIVE language even easier. If you have never written programs in any language then ARCHIVE is an excellent first one. This is especially true because there is an MSDOS version of ARCHIVE so you will be learning a skill that transfers to literally millions of computers. But even if you are adamant about not wanting to learn a programming language still follow the next couple Cable Columns because we will at first use ARCHIVE as a Front End Program before we start programming in it. If you only want a Database Front End Program then consider my DBEasy program. It runs under ARCHIVE and provides most of its features but requires no knowledge of ARCHIVE to use. I urge you on though, the advantage of a Language over a Front End is that you have total control over what you can do. A Front End has to sacrifice some flexibility in order to simplify the user interface.

In this Cable Column I want to explore a little how ARCHIVE stores its data. This will help explain some of its good points and its most important bad point. To use ARCHIVE we don't really have to know anything about its data structure. This information is not really documented anywhere and has been inferred from what others have written and from investigations of my own. First let us imagine how a record/field database system might store data. Suppose we have a database with 3 fields : 1)first & middle name, 2)last name, 3)phone number. Using ARCHIVE field name conventions we might define our database with fname$, lname$, and phone$ as the actual field names. So each record would consist of these 3 pieces of information. Bear in mind that all database systems must use pointer files ordered by a field or several fields in order to quickly locate records in a large database. In our simple database we could have a

pointer file ordered by lname$. It would consist of (last name,record #) pairs and be ordered in ascending order by last name. The record # would be the record number where that last name occured in our database. Using our pointer file we can find a record # for a last name quickly and go directly to that record in our database to get the phone number. But how should the data actually be stored in our database to effciently use it? The field names and the actual information (field values) both need to be in the file.

Database Type 1 : Single Line per Record

A simple data file format for a record/field database could consist of our field name definitions in the first line and then a line for each record after that. The fields could be in quotes and separated by commas. The data file might look like :

```
 fname$,lname$,phone$
 "John
D","Smith","603-675-1212"
 "Robert
Harvey","Jones","603-675-3243"
```

I underlined the actual data for emphasis. This line oriented method of data storage makes efficient use of space. Each of the fields can be as long or short as necessary. The first piece of text is the first name the second piece of text is the last name, and the third piece of text is the phone number. It works fine for a small database but data access would be too slow for large databases. If we wanted to find Kate Smith's phone number we would go to our last name lookup file and it would tell us which record # (line) Smith occured on. Suppose the first Smith occured on line 1000. The database program couldn't instantly know where line 1000 is. It would have to actually work its way down 1000 lines to see if it was Kate Smith. It would take much too long to access the data using this line oriented method. But interestingly, this is the form used for ARCHIVE, ABACUS, and EASEL export files. It is a good form of data storage for database systems to send databases to each other.

Database type 2 - Fixed Length Records

This is the most common way database systems organize their data. They require you to specify how many characters to allocate for each field when you first define them. So you might give 10 characters to fname$, 14 characters to lname$, and 12 characters to phone$. If a field value takes up less than its specified number of characters then blanks are filled in. So each record always takes up 10+14+12 or 36 characters. The data would be organized something like :

```
John D Smith 603-675-1212
Robert H Jones 603-675-3243
```

Now we can find a record by counting characters. And unlike lines, each record being a fixed string of characters would have specific memory locations that could be located instantly. Each record is 36 characters long so ignoring the first line, record 1 would begin at character 1 and record i would begin at character 1+36*(i-1). Now if our last name lookup file told us that Smith was in record 1000 our database program could go to character 1+36*(1000-1) and see if it was Kate Smith's record. Access would be fast. There are 2 draw backs to this type of database :

1) We have to limit how long each field can be
2) lots of space is wasted

In our example I had to abbreviate John Smith's middle

name to fit it in to the fname$ field size of 10 and there are 25 blank unused spaces. If we allow the fields more space then the total wasted space becomes even greater. As the number of fields in a record increases the wasted space also tends to increase. There is always a trade off with this type of database between giving a field enough space and how much total space is wasted. Even with these drawbacks this has been the most popular method of database design. If you have a hard drive like most MSDOS computers wasted space is not too important.

Database Type 3 : Variable Length Records with Pointers

This is the type of data storage that ARCHIVE uses. It organizes its data something like this :

```
fname$,lname$,phone$
1,28
6John
D5Smith12603-675-121213Robert
Harvey5Jones12603-6 75-3243
```

This uses significantly less space than the fixed length record type database of example 2 (no blanks to fill gaps). Each field has a number in front of it saying how many characters are in that field. For instance ´Robert Harvey´ has a 13 in front of it. The 2nd line of the file that consists of ´1,28´ is very important. Let´s call it the record pointer list. It tells where each record begins. Record 1 begins at character 1, record 2 begins at character 28. It is added to each time a record is added. If we had 2000 records then it would be a collection of 2000 numbers pointing to the character in the file where each record begins. Now if our last name pointer file told us that Smith was in record 1000, we would look at the 1000th number in the pointer list which would point to the character where the 1000th record begins. We could quickly find that record and see if it was Kate Smith. It takes a few more steps than the fixed length record database system but is still quite fast. So Archive is pretty efficient in data space and pretty fast. A text field can vary from 0 to 255 characters in length so there actually is a limit but at least space is not wasted for short field values. When working on microdrives this is critical and working with disk drives it is still important. With my QLERK Accounting program I have to keep on one disk : my main database (up to 2000 records), a lookup file (up to 2000 records), my address database (1000 records), and 3 smaller databases. These are complex databases with many fields. I wouldn´t be able to put half that many records on a disk with a fixed length record database system. So I am very fortunate that ARCHIVE makes such efficient use of data space.

In a real ARCHIVE database the field names and pointer list are at the end of the database file not at the beginning. There are many other complicating factors I have not gone into. I just wanted to take some of the mystery out of how a database system might organize data. I have given enough detail to give insight into some of ARCHIVE´s strengths. The efficient use of space removes the penalty of having fields that are seldom used. This encourages having databases with as many fields are might be needed. This is an important freedom not available with fixed length record database systems.

But we have to pay a penalty for this freedom. There is the vulnerability of getting the

record pointer list corrupted. Whenever an ARCHIVE database is accessed with the 'OPEN' command the record pointer list might be changed because you might insert, alter, or delete records. But until the database is closed again there is no way to be sure if the changes were written back to the database file on your disk or microdrive. ARCHIVE must protect itself to make sure there is complete integrity between the data and the record pointer list. When you 'OPEN' a database ARCHIVE 'marks' your database as possibly incomplete and it may not be 'unmarked' until you close it again. Actually the 'mark/unmark' situation fluctuates as full buffers are written to the file on the disk. This means that some of the time you can leave ARCHIVE without closing an opened file and get away with it. But if your database has not been closed and is still 'marked' and you shut down, the next time you access you database ARCHIVE sees that it is still 'marked' and rejects access to it. You will see error 102 'wrong file type' and you are locked out of your database. The real shame of this is that your data is probably almost 100% okay. But there is no easy way to recover your data because the record pointer list is possibly corrupted and it is no longer known where each record begins. This problem could have been mostly avoided if ARCHIVE had a little better data storage design but ARCHIVE users have to live with it now. There is a commerical SUPERBASIC program called RECOVER that will allow you to go through a corrupted ARCHIVE database and pick out the records. They are put into an export file and can be imported back into ARCHIVE. It can be tedious to do this with a large database but it will work in most cases. I would love to write a smarter recover program that would all but eliminate the chance for data loss but the US ARCHIVE user base is too small to financially justify the time/effort.

This ease with which a data file can be corrupted is the most serious drawback to ARCHIVE. But it is not serious enough to warrant avoiding ARCHIVE in my opinion. Probably few use ARCHIVE more than I do and I haven't lost any data in years. First of all whenever a database is accessed with the 'LOOK' command (no changes allowed) everything is perfectly safe. Next ARCHIVE users become careful about backing up their data when they do make changes to it. This is just good computer hygiene anyway. All disks and hardrives will eventually fail with enough usage. Most MSDOS users and even some QL users are oblivious to this danger. Its is frightening the number of potential tragedies lurking out there because of poor backup techniques. The MSDOS world is filled with people playing Russian Roulette with valuable data. There are also a couple of programming tricks that also can make data loss less likely that we will go into at some point. Because of my precautions, when I use ARCHIVE with my QL I am much less likely to lose data than most MSDOS users using their 'safe' programs.

Next issue we will finally get into some ARCHIVE commands. But if you are impatient to begin then get out your manual and do a little investigation on your own. Be sure to make a copy of your original database cartridge. Send any questions to me.

The Sinclair Desktop Publishing Journal

Volume 1 Issue 3 Summer 1990
Edited By Mike Feleraki

You Don't Have to be Artistic to Create These Great Looking Graphics!

By Mike Feleraki

You were so excited the day you received your first art program for your Sinclair that you could hardly wait for it to load. The advertisements in the magazines and even the wording in the instructions themselves touted the ability to create works of art which will materialize on your screen and then on to your printer as "what you see is what you get."

The only inaccuracy in this statement was not inaccurate at all; what you saw is what you got. Unfortunately, what was not mentioned anywhere was the requirement for YOU to supply the artistic talent!

See ARTISTIC page 2

In This Issue Of TSDPJ...

- Stan Lemke Pulls out of TS2068 Market
- TSDPJ Finds new Home
- Things Your Mother Never Told You
- TSDPJ Reviews The Press
- Creating Frames
- And more...

Pixel Print Users Shocked by Lemke Pull-Out!

By Mike Feleraki

Users of Pixel Print Plus and Pixel Print Professional desktop publishing software were shocked to learn about Stan Lemke's decision to depart from the Sinclair world. Stan and his company, Lemke Software Development, sold off all of his TS2068 and Spectrum equipment just months after announcing the release of Pixel Print Professional 5.0 (see review: Volume 1, Issue 2 of TSDPJ.)

Stan was truly the founder of desktop publishing for the TS2068 starting with the first Pixel Sketch and Graphics Editor and Pixel Print version 1.0 programs. His final version of Pixel Print was the Professional version 5.0 which incorporated a new Pixel Sketch program, accessible directly from Pixel Print as well as a document formatter, printer configuration program and Tasword II/MScript to Pixel Print conversion utility. This final version was available as fairware.

What does the future hold for Pixel Print users? The Sinclair Desktop Publishing Journal is, at the time of this writing, working on obtaining the rights to distribute Customized Pixel Print and Pixel Print Professional 5.0. TSDPJ is also negotiating an upgrade to Pixel Print Professional via a third party.

What can you do to help? First of all, SUPPORT YOUR TS DEVELOPERS—as a matter of fact, sent out an order TODAY! The only way we have any hope of keeping our Timex and Sinclair computers alive is through the support of our dealers and developers. Make a resolution to purchase at least one new product a month.

As far as Pixel Print is concerned, we at TSDPJ need to see your support through cards and letters. If you would like to see Pixel Print continue to grow, the developer needs to know, so, Write to: Save PPP, c/o The Sinclair Desktop Publishing Journal, 1284 Brushwood Avenue, Cincinnati, OH 45224, and I will make personally sure that our potential developer is aware of Pixel Print's strong support.

TSDPJ Finds a New Home

Staff Writer

Within the first year or so of a publication, there are always the expected "Growing Pains". When TSDPJ's premier issue was published, the intention was to distribute a sample/initial issue within the ISTUG Newsletter and see if there was enough interest. If there was, then TSDPJ would become a seperate publication. Since then, interest and feedback on TSDPJ has been good...good enough that it has been offered a home inside Update Computer Systems starting with Update's October 1990 issue.

To the readers of TSDPJ this means: Better defined publishing dates, larger circulation and larger TSDPJ issues (the staff will have more time to devote to exploring and writing rather than stapling and stamping.) The catch is (and there is always a catch) you have to subscribe to Update. This is not so bad because the price is excellent and it is the largest Timex/Sinclair magazine in North America. So look for the entire TSDPJ inside Update Computer Systems this fall!

Readers Note: TSDPJ is no longer accepting subscriptions, but it will honor all current subscriptions which will all expire with the Winter 91 issue.

...ARTISTIC from page 1

So the program was relegated to drawing three dimensional boxes, circuit pin-outs and maps to the company picnics. All of these are very noble projects, but they do not unleash the real power of the Sinclair or the drawing program itself.

I myself am not an artist but practice makes perfect, and experts say we all have hidden talent. But until that time when our talent blossoms, here is a short-cut to great looking graphics.

The Toronto Bluejays graphic on the front page and the Budweiser graphic below were created using a pattern found in a Counted Cross Stitch pattern booklet. Counted Cross Stitch is a type of needle work where by a picture or pattern is created on fabric by stiching Xs or /s. The process is amazingly simular to setting or resetting pixels on screen using a SCREEN$ graphics program (remember a SCREEN$ graphic is any graphic design which can be saved using SAVE "name"SCREEN$ and/or loaded using LOAD"name"SCREEN$ commands from basic.) The package I use in order to transfer the designs from the Cross Stitch booklets to a screen file (SCREEN$) is the OCP Art Studio program for the Sinclair Spectrum.

The pattern is easily transfered by setting a pixel (in zoom mode) on screen for each X or / shown in the booklet. This method works for many of the patterns which can be reproduced in black and white such as logos or fonts. Multi-colored patterns require a touch more talent.

The entire idea came to me as I watched my wife cross stitch the Bluejays symbol on a sweatshirt for me one afternoon. The concept was so obvious that I was surprised I had not thought of it before! Counted Cross Stitch booklets can be found in many craft stores as well as needlepoint/quilting stores. The booklets can range from $1 to $10 depending on the number of patterns or the complexity of the pattern. Better still, get your spouse involved in Counted Cross Stitch, and the patterns will be free!

Making of Issue 3

The first and second page of this issue (Issue 3) was created using the Word-Master word processor and its page formatter, Typeliner as a complete package. The graphics for pages one and two were created with the OCP Art Studio. Pages three and four were created using the desktop publishing program First Edition from The Print Factory. Future issues will be created using these packages, plus Pixel Print Professional and The Press.

Is Anybody Out There Using Masterscribe?

Staff Writer

A couple of years ago, a desktop publishing program for the Timex/Sinclair 1000 was sold by the E. Arthur Brown company. The name of the package was Masterscribe and it was written by Mike Hawks. The cost of the program was $14.95 and its final version included a full size printer driver.

If anyone has a copy of the program they wish to sell or trade, or if anyone has the address of Mike Hawks, The Sinclair Desktop Publishing Journal would love to get a hold of this program. If you have any information please contact:

Mike Feferuk
Sinclair Desktop Publishing Journal
1284 Brushwood Avenue
Cincinnati, OH 45224

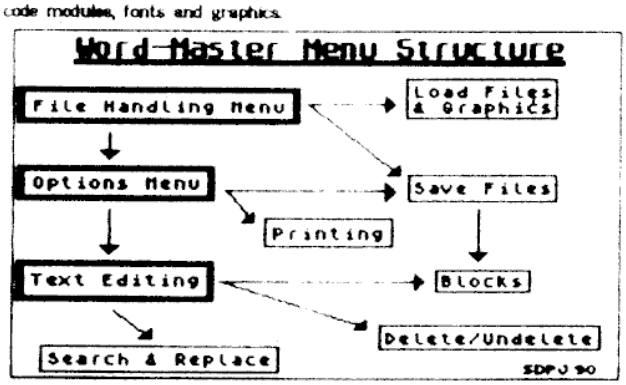
TSDPJ is highly interested in the package since it is the only desktop publishing program we are aware of for the TS1000.

Coming This Fall...

Coming up in the Fall 1990 issue we will explore more of The Print Factory programs, look closer at the new Pixel Print Professional 5.0, play around with Pixel Print SCREEN$s as figures in a document, and show a SCREEN$ to Zebra Icon conversion program. See you in October '90!

Word-Master File Handling

The center point of the Word-Master text processing and desktop publishing package is the File Handling Menu (FHM). From this menu, all other menus, programs, text files, fonts and graphics are accessed and manipulated. As mentioned in issue 2 of The Sinclair Desktop Publishing Journal, the memory which is not used to hold the Word-Master program (including FHM) is utilized as a RAM disk to hold the text files, code modules, fonts and graphics.



The FHM allows the user to LOAD and SAVE any of the files in the RAM disk to cassette, any of several floppy disk drives on your system and even to the Larken RAM Disk. There are commands to change the default drive number (where drive zero is cassette), execute a CATalog of the default drive (except drive 0), and view a listing of the files stored in the main RAM disk.

Other features of the FHM include ERASE to remove files from disk, DELete to remove a file from the RAM disk and GET which is used to edit a text file or execute a program module. Finally, there is a GRAPHICS option which allows the user to load a SCREEN$ into memory, adjust the screen's size to eliminate unused space and then save the graphic/SCREEN$ to the RAM disk in a condensed form. The condensed graphic can then be saved to disk or cassette thus wasting little disk space or cassette load time. It is from the FHM that one enters Word-Master, the word processor.

TSDPJ DIVES INTO THE PRINT FACTORY'S THE PRESS DESKTOP PUBLISHER

AS THE USERS MANUAL STATES, **THE PRESS** DIFFERS QUITE A LOT FROM **First Edition.** THE PRESS ALLOWS YOU TO CREATE PAGES WITH SCREEN$ INSTEAD OF GRAPHIC DESIGNS. HERE IS WHERE YOU "CAN'T HAVE YOUR CAKE AND EAT IT TOO". WHERE FIRST EDITION ONLY ALLOWS YOU TO WORK WITH GRAPHIC DESIGNS THE PRESS **only** ALLOWS YOU TO WORK WITH SCREEN$s. ONE OTHER DRAW-BACK IS THAT YOU CAN ONLY CREATE AT MAXIMUM, ONE HALF (1/2) OF A PAGE AT A TIME, UNLIKE FIRST EDITION, WHERE YOU ARE ABLE TO CREATE THE ENTIRE PAGE (8 1/2"X11") IN MEMORY AT ONCE. THIS IS BECAUSE SCREEN$s ARE LESS EFFICIENT AND TAKE UP MUCH MORE MEMORY THAN PRINT FACTORY GRAPHIC DESIGNS.

A HALF OF A PAGE CONSISTS OF 60 COLUMNS WIDE BY 44 LINES LONG AT 480 DPL (DOTS PER LINE). THEREFORE, TO PRODUCE A FULL PAGE YOU WOULD CREATE A TOP HALF THEN A BOTTOM HALF, AND PRINT THE TOP HALF, LOAD THE BOTTOM HALF INTO MEMORY, THEN PRINT IT. AT FIRST IT SOUNDS A LITTLE HOKEY, BUT ONCE YOU HAVE PLAYED WITH IT, IT IS NOT SO BAD.

ANOTHER FEATURE OF THE PRESS IS THAT THERE ARE 4 FONTS AVAILABLE, FONT I-III AND THE ROM FONT. UNLIKE FIRST EDITION FONTS ALREADY IN THE PAGE ARE **NOT** REPLACED BY A NEWLY LOADED FONT. THERE IS ALSO A FACILITY TO WORK WITH REAL 16 POINT FONTS. A 16 POINT FONT IS LOADED OVER BOTH THE EXISTING 8 POINT FONT II AND III. THEN TO USE THE 16 POINT FONT YOU NEED TO SELECT THE **Real Double** OPTION, AND YOU ARE ON YOUR WAY. SO WHY IS SO MUCH ATTENTION PAID TO FONTS? IT IS BECAUSE THE PRESS DOES NOT ALLOW YOU TO USE SUPER SETS, WHICH OF COURSE ARE GRAPHIC DESIGNS.

NOTE

WHEN YOU WISH TO RETURN TO AN 8 POINT FONT FROM A 16 POINT FONT, YOU **must** CLICK ON THE **Real Double** OPTION **FIRST!** MY BEST GUESS IS THIS APPEARS TO BE A QUIRK IN THE PRESS PROGRAM.

SCREEN$s CAN BE MERGED AS WELL AS OVER(LAYED) AND LOADED FROM THE MAIN MENU (See **SCREEN$s and The Press!**). TO LOAD A SCREEN YOU MUST PLACE THE CURSOR IN THE UPPER LEFT CORNER POSITION ON THE PAGE WHERE YOU WISH THE UPPER LEFT CORNER OF THE SCREEN$ TO APPEAR. THEN LOAD THE SCREEN$ FROM THE MAIN MENU. AFTER LOADING, A MENU BAR WILL APPEAR AT THE BOTTOM OF THE SCREEN WHICH HAS THE OPTIONS: **BOTTOM TOP O.K. MENU.** HERE IS WHERE YOU TELL THE PRESS HOW MUCH OF THE SCREEN$ YOU WANT TO USE. FIRST, CLICK ON **TOP**, MOVE THE POINTER TO THE UPPER LEFT CORNER OF THE SCREEN$ AND CLICK ON IT. NEXT, CLICK ON **BOTTOM** AND THEN CLICK ON THE LOWER LEFT CORNER OF THE SCREEN$ AREA YOU WISH TO USE ON YOU PAGE. FINALLY, CLICK ON **O.K.** AND YOUR SCREEN$ WILL BE INSTALLED ON THE PAGE. SELECTING **MENU** AT ANY TIME WILL RETURN YOU TO THE PAGE AND **NOT** INSTALL THE SCREEN!

OTHER FEATURES INCLUDE **Over**, **Merge**, **Inverse** AND **Normal** TEXT MODES, PLUS THE OTHER REGULAR EDITING MODES AS FOUND IN FIRST EDITION.

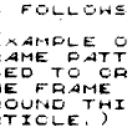
THE PRESS IS HANDY WHEN A USER IS CREATING A PAGE WHICH INCLUDES VIDEO DIGITIZED PICTURES AS SCREEN$s. GRAPHIC DESIGNS CAN BE CONVERTED TO, AND USED IN SCREEN$s VIA **Quick Screen** FOR USE IN THE PRESS. BUT MOST USERS WILL FIND IT BETTER TO STAY AWAY FROM THE PRESS UNLESS THE INCLUSION OF A SCREEN$(s) IS A MUST FOR A PARTICULAR PAGE OR DOCUMENT.

CREATING FRAMES

For Use in The Print Factory

NOW THAT YOU HAVE CONVERTED ALL OF THE PROGRAMS TO DISK AND TRANSLATED ALL OF YOUR ZEBRA/PIXEL PRINT ICONS TO GRAPHIC DESIGN FILES, IT IS TIME TO BE CREATIVE. THE FIRST DESIRE IS FOR SOMETHING SIMPLE SUCH AS BORDERS OR FRAMES. ONE REASON TO TOY WITH BORDERS IS THE EASE AT WHICH THEY CAN BE DESIGNED, AND ANOTHER IS THE ABILITY TO INSTANTLY CREATE FRAMES USING PRINT FACTORY'S **Frame II** OPTION. FRAME II LETS THE USER SELECT THE UPPER LEFT CORNER F **Design** MENU, USE THE POINTER TO POINT & CLICK FIRST THE UPPER LEFT CORNER, THEN THE LOWER RIGHT CORNER POSITION AND INSTANTLY A FRAME IS CREATED!

IN ORDER TO CREATE YOUR OWN FRAME, YOU NEED TO KNOW THE ORDER IN WHICH A FRAME IS PUT TOGETHER FROM A GRAPHICS DESIGN FILE. A FRAME II FRAME IS MADE UP OF 8 (MOST LIKELY DIFFERENT) PATTERNS. THERE IS A PATTERN FOR EACH CORNER AND EACH SIDE. THE ORDER IN WHICH THE PATTERNS MUST BE STORED IS AS FOLLOWS:



(EXAMPLE OF THE FRAME PATTERN USED TO CREATE THE FRAME AROUND THIS ARTICLE.)

EACH OF THE 8 PATTERNS IS CREATED AND STORED USING **The Creator** PROGRAM. ALL 8 CAN BE CREATED IN ANY ORDER, BUT MUST BE STORED IN THE GRAPHICS DESIGNS FILE IN THE ABOVE ORDER! FRAME II PATTERNS ARE 8X8 PIXELS AND BY PLACING ONE FRAME INSIDE ANOTHER YOU CAN CREATE SOME INTERESTING EFFECTS! HAVE FUN WITH FRAMES AND EXPERIMENT. GOOD LUCK!

THINGS YOUR MOTHER NEVER TOLD YOU

(Or, TSDPJ's "Understanding The Language of The Print Factory....)

By Mike Felenski

One OF THE MOST FRUSTRATING THINGS ABOUT A NEW PIECE OF SOFTWARE IS TOO OFTEN THE LACK OF COMPLETE INSTRUCTIONS ON HOW TO USE THE SOFTWARE AND ITS COMMANDS TO DO WHAT YOU WANT TO DO. PROGRAMMERS ARE NOTORIOUS FOR DESPISING DOCUMENTATION, ESPECIALLY THE CREATION THEREOF! AS SOFTWARE PACKAGES PROGRESSED, THEY BECAME MORE AND MORE "USER FRIENDLY", A TERM TOO LIBERALLY APPLIED THESE DAYS. IN COMES **The Print Factory** BY BYTE POWER MAGAZINE. ITS CLAIM IS THAT THE PRINT FACTORY PROGRAMS ARE SO "USER FRIENDLY" YOU WILL ALMOST NEVER NEED TO REFERENCE THE MANUAL. BUT THERE ARE THOSE OCCASIONS WHEN YOU WILL NEED TO LOOK UP ITEMS IN THE MANUAL. AND THIS ARTICLE IS HERE TO CLEAR UP THOSE "GRAY" AREAS.

First Edition Version 1.1 USES ALL OF THE MEMORY OF THE COMPUTER INCLUDING THE AREA ABOVE MEMORY LOCATION 64000 WHICH IS USED IN FIRST EDITION VERSION 1.0 FOR PRINTER INTERFACE DRIVER SOFTWARE. THEREFORE, IF YOU ARE USING AN AERCO OR TASMAN B INTERFACE, YOU DO NOT NEED TO LOAD A PRINTER INTERFACE DRIVER AND CAN USE FIRST EDITION VERSION 1.1. WHAT THIS ADDED MEMORY OF VERSION 1.1 GIVES YOU IS 1.5K ADDITIONAL **Graphic Design** MEMORY SPACE. **No** ADDITIONAL **Page** SPACE IS ACQUIRED. YOU ARE STILL LIMITED TO A MAXIMUM PAGE WIDTH OF 255 OR MAXIMUM PAGE LENGTH OF 255.

EXTENDED Mode IS MENTIONED IN THE FIRST EDITION SECTION OF THE MANUAL FOR SETTING THE LEFT MARGIN, SETTING A TAB AND USING THE TAB FUNCTION. WHAT THE INSTRUCTIONS FAIL TO MENTION IS HOW TO GET INTO THE EXTENDED MODE. THIS IS DONE BY PRESSING THE CAPS SHIFT AND SYMBL SHIFT KEY AT THE SAME TIME. THEN LET OFF, AND PRESS M FOR SETTING THE LEFT MARGIN, ETC. BY THE WAY, I HAVE YET TO FIND A WAY TO SET THE RIGHT MARGIN IN FIRST EDITION AS MENTIONED IN THE INSTRUCTIONS, AND THEREFORE IT MAY BE A TYPOGRAPHICAL ERROR.

SUPER SETS ARE SUPER-SIZED FONTS THAT ARE ACCESSED BY SELECTING THE THE FIRST CHARACTER OF THE SUPER SET (USUALLY THE LETTER "A") FROM THE GRAPHICS DESIGNS MENU, AND THEN SELECTING THE SUPER SET OPTION FROM WITHIN THE TEXT MENU. THE IMPORTANT THING TO NOTE IS THAT THE SUPER SET "FONTS" FOUND ON THE SECOND TO LAST PAGE OF THE INSTRUCTION MANUAL ARE LOADED INTO THE PRINT FACTORY PROGRAM AS **Graphic Designs, NOT as Fonts!** FONTS ARE THE 8X8 DOT CHARACTER SETS THAT CAN BE LOADED INTO PROGRAMS SUCH AS PIXEL PRINT, ART STUDIO, ETC. BYTE POWER SELLS A FONT PACKAGE CALLED FIRST CLASS FONTS II, AND OTHER FONTS ARE AVAILABLE THROUGH RMG INC. AND THEY CAN ALL BE USED WITH FIRST EDITION AND THE PRESS.

Letter Perfect IS UNIQUE ON ITS OWN IN THAT IT IS NOT A WHAT YOU SEE IS WHAT YOU GET, SO THERE ARE MORE THINGS TO KEEP TRACK OF. TEXT FUNCTIONS SUCH AS **SET TAB** ASK FOR A NUMBER (###) WHERE THE **###** REFERS TO THE NUMBER OF **Pixels** YOU WANT TO TAB. A RULE I USE WHEN CREATING LETTERS IS TO USE A TAB VALUE OF 320 WHEN A WIDTH OF 576, AND A LENGTH OF 55 LINES IS USED.

LETTER PERFECT ALSO USES EXPECTS A **Line Feed Code** TO TELL THE PROGRAM HOW FAR TO ADVANCE THE PAGE AFTER EACH LINE DURING PRINTING. I RECOMMEND 8/72" SPACING. TO IMPLIMENT THIS ON AN EPSON COMPATIBLE PRINTER, ENTER THE FOLLOWING FOR A LINE FEED CODE:

27 65 8

If YOU HAVE ANY PRINT FACTORY TID-BITS, TRICKS OR HELPFUL HINTS YOU WOULD LIKE TO SHARE WITH OTHER READERS, SEND THEM TO:

Sinclair Desktop Publishing Journal
1284 Brushwood Avenue
Cincinnati, OH 45224

File Names are one thing that were left out of the Print Factory's documentation. Below is a list of the Graphic Designs' file names:

Name	Description
ANIMALS	Animals & Nature
OFFICE	Home & Office Graphics
TRANSPORT	Transportation & Sports
ARTS	Art & Holiday Graphics
MISC.	63 Misc. graphics
COMICS	Comics & Cartoons
DIGITIZED	Digitized Pictures
FRAME 1	1x1 8 Character Frames
FRAME 2	Odd size frames
FRAME 3	Misc. & Special Frames
FONT 1	
FONT 2	
.	Super Set type Fonts
.	
FONT 13	

Byte Power Magazine
1748 Meadowview Avenue
Pickering, ONT L1V 3G8 Canada

ARCHIVE HOUSEKEEPING

Peter R. Hale, P.O. Box 8763, Boston, MA 02114

For all its handiness as a fourth generation programming language and its efficiency of record storage, ARCHIVE has one major problem: the data files(_dbf) can accumulate a lot of junk over time, and that can lead to corrupted files.

The magnitude of the problem became apparant when I was doing some housekeeping and kept track of all the file lengths.

A file of 310 records took a little over 47K of disk space. After exporting and reimporting it took only a bit over 43K - almost 9% less space.

The real advantage though was the cleaning out of all the unused bytes holding old data between records in the file. ARCHIVE no longer had to hop and skip to assemble the pieces together. The potential for corrupted databases was significantly reduced.

Next, I deleted the contents of 3 text fields in all records. The file length was unchanged. The old data was still on the file, except for the first character in each field. This file was exported and reimported and was reduced to a little under 33K - almost 25% savings.

It's simple to do:

look "filename" (Don't bother to open the file.)

order field$;a (This is optional, but useful if there is a field you frequently order on.)

export "temp" (When you type export <ENTER>, the quotation marks appear automatically.)

The drive will whirr creating a file called temp_exp. This file could be imported to ABACUS, as well, if the importing is by columns. However, ABACUS is limited to 254 records.)

close (This closes "filename" for safety.)

import "temp" as "file" (Again the quotes appear each time you hit the <ENTER> key. Be sure that the name you choose for importing is different from the original one.)

After the whirring ceases, do not forget to **close**. The imported file is an open database.

FOR SALE: 2068 Z-SI/O RS-232C Serial Interface Card for JLO DOS, fully assembled with manual, $25. Please write: Dave Youngquist, 1214 Clinton, Des Moines, Iowa 50313.

========== SIDE BAR ==========

AL FENG

Cost considerations probably resulted in the minimalist keyboards used on earlier computers. But, with the QL, Uncle Clive went to the trouble of having specially designed key-tiles (maybe a "niece" did it for her portfolio). At first, the QL's keyboard appears to be an improvement over the "chiclet" style keys used on the earlier SPECTRUMs and TS-2068s. Whatever expense was saved in the amount of materials used was not compensated by the expense of the custom "crater" design.

Since the ZX-88 appears to continue the tradition of peculiar keyboard design, one may conclude that either Sir Clive Sinclair isn't worth a lick as a typist, or the keyboards are meant to be a Scotsman's Revenge for being a subject of the Crown.

For a brief time (before apparently exiting the QL market) a West German company involved with QL peripherals (ABC-ELEKTRONIK) had finally sorted out their auxilliary keyboard by abandoning the original design (!!??) and providing an interface which "works" with any "standard" IBM-PC- or compatible-CLONE keyboard. It never officially made it to these shores, and the estimated price (my guess) for the interface will be in the range of $100. WEE-OH. You then add a PC-compatible keyboard (available ANYWHERE for between $40 and $200+, depending on brand and features). My understanding is that Jochen Merz has acquired the "rights" to ABC's products (which included the mega-board); but, details remain scant.

While this may seem a bit extravagent, it is a better solution than the proprietary SCHO(e)N keyboard which had a price tag of close to $200! I was tempted to purchase one of these a couple of years ago until I found out that a subsequent replacement for the keyboard was NOT available should it wear out or be damaged! The only keyboards which I have ever seen that did not seem to wear-out were on pianos.

HINTS AND TIPS ON SINCLAIRS

by Eliad P. Wannum

First off I would like to discuss one of the best ways to improve upon your QL, short of adding more memory, disk drives or a hard drive. That method is to replace the ROM chips that are in your QL with the Tom Bent designed internal eprom board. When you do this you can then get an updated ROM for your computer that has had some (or maybe even all) of the bugs improved upon or eliminated. Currently the most often seen ROM in the U.S. is the JSU ROM. There have been several improvements made since this, however. Some of these are the MGUK, MGUS and the MINERVA ROMS. In Great Britain the JM ROM is still quite common, but has lost some ground to the MGUK and the MINERVA.

Here are a few notes taken on these ROMS. This is not a complete comparison of the good and bad points of these ROMS. If you are using the MGUS and trying to work with Digital Precisions IBM emulator program, the Solution, then you can not get back into QDOS from MSDOS. This effectively rules out being able to multi-task QDOS and MSDOS. With the MGUK and the MINERVA you are able to multi-task this emulator. I have been told the same thing applies to the CPM emulator programs, but do not have them to confirm this.

I have at various times used all of these versions of ROM, in fact I have a QL with each of them installed. All of them except the JSU and JM ROMs are on eprom. According to literature received the best reason to go with the eprom is that the ROM chips in your QL are very power thirsty. When replaced with the eprom, power consumption drops about 20% and temperature under the hood of your computer drops almost 50 degrees farenheit. Once this board has been installed in your computer you can always get the latest version of ROM installed by merely popping out the old chip and putting in a new eprom, or get it done for you if you are not an experienced hardware hacker.

With the Minerva chip, besides being nearly a complete rewrite of most of the original ROM, you get increased handling of math, text and graphics. Much of this is like having the program Lighning permanently installed. One other thing I like about the Minerva chip is that I can reset the computer by pushing CONTROL,ALT,SHIFT and TABULATE. I feel safe leaving a disk or MDV cartridge in the machine during this reset. I would not do this with the reset switch on the side. I can also have four choices on power-up, rather than two. I can get it to ignore added memory for those programs that only work with 128K, and I can put it into dumb terminal mode. Do these items at all tempt you to say "Where can I get these eprom boards or find out more about these various ROMs and how to get a replacement ROM?" If that is so, then contact :

MECHANICAL AFFINITY Send a SASE for more info.
513 EAST MAIN ST.
PERU, IN 46970

They are also able to provide you with the famous Tom Bent improved ROM for your TS1000. This gives you better use of that old TS1000 and less heat and power consumption. I reckon they could even improve your ROM for the TS2068. If they made you an improved ROM for the QL, they can also put several other programs on that ROM, but only if you are a legal owner of that program. Examples of this would be ICE, SPEEDSCREEN, QFLASH or CPM to name some that I know about. If this sounds intriguing to you give Frank and Paul a letter or call.

MINI MECHANICAL AFFINITY CATALOG

FALL SPECIALS FROM -MECHANICAL AFFINITY, 513 EAST MAIN ST., PERU, IN 46970. CALL 317-473-8031 TO INQUIRE ABOUT AN ITEM, OR TO ASK THAT AN ITEM BE HELD FOR YOUR CHECK TO ARRIVE. ABOUT HALF OF THE ITEMS ARE ONE ONLY. ASK FOR FRANK OR CAROL. OR CALL 317-291-6002 AND ASK FOR PAUL. ITEMS WILL BE HELD FOR TEN CALENDAR DAYS FOR YOUR CHECK OR MONEY ORDER.

PROGRAMS FOR THE QL

WE HAVE FAR TOO MANY TO LIST HERE SO PLEASE SEND A LARGE SELF ADDRESS ENVELOPE WITH POSTAGE AFFIXED AND WE WILL SEND YOU A LIST OF WHAT WE HAVE AVAILABLE OR CAN GET FOR YOU.

BOOK

QL TECHNICAL GUIDE 15

SERVICES and PARTS

QL Internal ROM board- this allows you to put your favorite ROM version (JM, JS, JSU, MGUS, MGUK, etc.) on an eprom. This will lower power consumption by the QL by about 20% & drop the internal heat by close to 50 degrees fahrenheit. There is also room on the eprom for us to include one of the following programs if you are an owner of one of them: ICE, QFLASH, TKII, SPEED SCREEN. Brd & eprom $40 -- Board alone $15 -- Custom eprom alone $25.

Internal battery backed clock for QL, uses lithium battery, so should be good for far longer than ordinary batteries. This plugs in where the 8049 goes, and the 8049 is then installed in it. $20 for brd & instructions, or $26 if we install.

Replacement or backup power supply for the QL, no serious user should be without one (personal opinion). $15

QL case, contains keys and bare motherboard, no microdrives. Can be used to replace bad case, keytops, or bad motherboard, or even as a start on building your own spare QL. $20

Keytops for QL $7.50

Micro Drive Cartridges $5 each, till supply improves.

MDV labels 3 sheets for $1.25

SYNCWARE NEWS Vol. 1 $8

TS2068 dock eprom boards, bare $10.00

Tom Bents Improved 8K TS1000 ROM $10.00

Disk Drives, both 3 1/2 and 5 1/4 inquire as to special prices

Improved Spectrum ROMs on eprom $10.00

SINCLAIR and TIMEX USER GROUPS and CLUBS of NORTH AMERICA

Here are some of the known user groups and clubs in North America. We encourage you to join and support them. Should you know of any we have omitted, drop us a line at UPDATES and tell us about them. If you send an inquiry to one, please do not forget to include a Self Addressed Stamped Envelope. It costs to reply to your questions, so be fair and pay your own way.

✓ ISTUG: 513 East Main Street, Peru, IN 46970-has newsletter

✓ NEQLUG: P.O. Box 8763, Boston, MA 02114-8763-has newsletter

North Mich User Club: P.O. Box 112, Alger, MI 48610

✓ C.A.T.S.: P.O.Box 11017, Takoma Park, MD 20913-has newsletter

✓ C.A.T.U.G.: 613 Parkside Circle, Streamwood, IL 60107-has newsletter

✓ Capital Dist. T/S Computer Club: 141 Ontario St.,Albany, NY 12206-has newsletter

✓ Clackamas County TS Group: 1419 1/2 Seventh St., Oregon City, OR 97045-has newsletter

DMA-TSUG: 612 Hedwick St., New Carlisle, Ohio 45344-shares newsletter with other groups, has one page

KATS: 141 Brown Dr., Wichita, KS 67230-newsletter unknown

✓ L.I.S.T.: 5 Peri Lane, Valley Stream, NY 11581-has newsletter

Quantum Leap User Group: 4411 2nd Ave., Amarillo, TX 79106

QZX JOURNAL: 2055 O'Donnell Dr., Las Cruces, NM 88001-has Sinclair ham journal

RAMTOP: 6514 Bradley Ave. (down), Parma, Ohio 44129-newsletter status unknown

✓ SMUG: P.O.Box 101, Butler, WI 53007-has newsletter

SINCUS: 1229 Rhodes Road, Johnson City, NY 13790-newsletter discontinued

✓ TIMELINEZ: 311 Michelle Ln., Daly City, CA 94015-has newsletter

THE HACKER: 2345 Moorpark Way, Henderson, NV 89014-has newsletter

✓ TORONTO T-S USERS CLUB: 14 Richome Court, Scarborough, Ontario M1K 2Y1-has newsletter

✓ SEATUG: 118 N.W. 84th St., Seattle, WA 98117-3044-has newsletter

✓ ZX-APPEAL: 2006 Highview Place, Port Moody, B.C. V3H 1N5-has newsetter

QL UPDATE ISSUE DISKS

These disks contain at least one major piece of software written specifically for disk drive and are guaranteed to be worth the money. The rest of the disks are filled with various utility programs taken from the issues of UPDATE and a few surprises thrown in. Half of the money goes to the author and is meant to encourage new programming for the QL that makes use of the disk drive systems, and microdrives on both the expanded and unexpanded QL. Where possible we will give a version for each of these configurations. Some of the programs take advantage of TK2 by Tony Tebby. All are $22.00 per disk (add $1.00 Canada) and include postage and handling. We have two new pieces of software coming out in the next issue, plus the return of one previously offered. Both 3 1/2 and 5 1/4 40 and 80 track available. Please add $5.00 for mailing to other countries. We accept personal checks, company checks, money orders as well as International Postal Money Orders. We do not have facilities for charge cards. If ordering on microdrive then please include a formatted microdrive cartridge with your order due to both expense of microdrives and the fact that we will know it will run on your QL. If a program requires two microdrive cartridges we will state so in the ad.

1) HARTUNG UTILITY ISSUE DISK- Several excellent programs such as stand alone data base, Address, and QSO files. All are in Superbasic. Lots of hints and tricks for programmers. Requires some knowledge of Superbasic or a yen to learn. Recently updated by Bob Hartung. Address file can be used as inventory program. It can print out labels. Both screen or paper printouts can be by Alpha sort, or be by last name.

2) CABLE ARCHIVE ISSUE DISK- Contains six Archive programs along with Doc files to get you going on making use of the Archive programming language. Also has Tasket, plus Doc file, to give you multi-tasking on your QL (much cheaper than QRAM or Taskmaster). Included is Arithmetic, a Superbasic program for math, along with math drills. This is for both the advanced and beginner user and greatly extends the use of Archive. To order on microdrive send two formatted microdrives, too much for one!

3) QLUSTER ISSUE DISK by Al Feng- Ql utilities to unclutter your disks and microdrives. COPY, DELETE, FORMAT, PRINT, VIEW, plus extended use of some Tool Kit 2 commands. TK2 is required. These are TURBO compiled for speed. Multitasks and uses minimal key presses. Includes Fast-Disk and Vegemat2, a super clone making program. Also Snap Shot-a directory column or condensed printout program.

4) DOS EMULATOR COMPANION ISSUE DISK by Al Feng- Just released in this issue. Makes better use of Solution, PC Conqueror, DisCover, XOVER, QLuster and scr_codes. If you are going to use the emulators, then check this out.

UPDATE COMPUTER SYSTEMS invites you to submit software programs that may become Issue Disks. Please submit program on disk, with documentation and article to accompany the program. We are here to get North American software available and known. We also solicit minor programs, tips and utilities for print in future issues of the magazine.

FWD

TS2068 UPDATE ISSUE DISKS

These disks contain at least one major piece of software written specifically for disk drive and are guaranteed to be worth the money. The rest of the disks are filled with various utility programs taken from the issues of UPDATE and a few surprises thrown in. Half of the money goes to the author and is meant to encourage new programming for the TS2068 that makes use of the various disk drive systems. Presently we are offering disks for the Larken and Oliger Interfaces, but have programs available for the Aerco (just as soon as I locate an Aerco Disk System to copy them with). All are $22.00 per disk (add $1.00 Canada) and include postage and handling. We have two new pieces of software coming out in the next issue, plus the return of some previously offered. Both 3 1/2 and 5 1/4 40 and 80 track available. Please add $5.00 for mailing to other countries. We accept personal checks, company checks, money orders as well as International Postal Money Orders. We do not have facilities for charge cards.

1) MITCHELL BUDGET DISK, with wide spreadsheet printer driver, MS-TAS and various other utilities. Available as either Larken or as Oliger format.

2) Bob Hartung DOSDEX UTILITY ISSUE DISK, a complete disk management group of programs for the Oliger Interface only. This includes Multi-Manager for file handling. This collection has recently been updated.

3) MAIL MERGE ISSUE DISK, Oct 87 and Jan 88 issues of UPDATE utilities added to fill out this disk. Includes a tutor program for the Mail Merge program, List Looker, Purity, J-Utilities and Extra Memory Utilities.

4) MITCHELL VIEW CALC ISSUE DISK, forget the old slow VC for tape! The rest of the disk is filled with other utilities plus some Public Domain for fillers. At this time for Larken format only.

UPDATE COMPUTER SYSTEMS invites you to submit software programs that may become Issue Disks. Please submit program on disk, with documentation and article to accompany the program. We are here to get North American software available and known. We also solicit minor programs, tips and utilities for print in future issues of the magazine.

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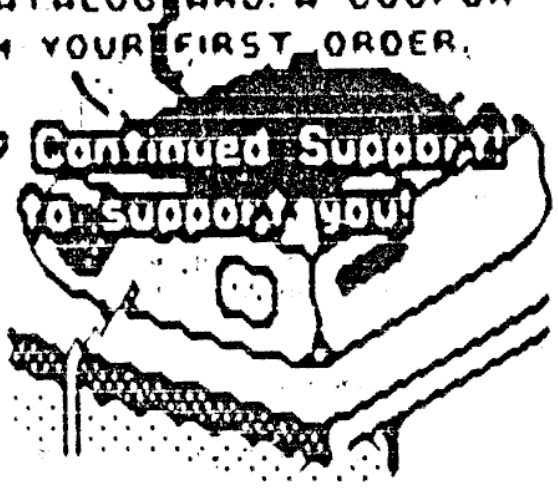
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